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MEMOIRS

OF

JOHN ABERNETHY, F.R.S.

WITH

A VIEW OF HIS LECTURES, WRITINGS, AND CHARACTER.

BY

GEORGE MACILWAIN, F.R.C.S.,

AUTHOR OF "MEDICINE AND SURGERY," "ONE INDUCTIVE SCIENCE," ETC., ETC.

The evil that men do lives after them. The good is oft interred with their bones.
—SHAKSPEARE.

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PREFACE.

My father practiced on the borders of a forest, and when he was called at night to visit a distant patient, it was the greatest treat to me, when a little boy, to be allowed to saddle my pony and accompany him. I used to wonder sometimes what he could see so very disagreeable in that which to me was the greatest possible pleasure; for whether we were skirting a bog in the darkest night, or cantering over the heather by moonlight (the colder the better), I certainly thought there could be nobody happier than I and my pony. My father knew the forest nearly as well as his own garden; but still, in passing bogs in impenetrable darkness, the more refined topography of a forester would be necessary; and it was on one of these occasions that I first heard two words, "Meward" and "Abernethy," the one from our forester guide, which I have never heard since, and the other, which I have heard more frequently, perhaps, than any other. The idea I then had of Abernethy was that he was a great man who lived in London. The next distinct impression I have of him was derived from hearing my father say that a

lady, who had gone up to London to have an operation performed, had been sent by him to Mr. Abernethy, because my father did not think the operation necessary or proper; that Mr. Abernethy entirely agreed with him, and that the operation was not performed; that the lady had returned home, and was getting well. This gave me a notion that Abernethy must be a very good as well as a great man. I found that my father had studied under him, and his name became a sort of household word with us. Circumstances now occurred which occupied my mind in a different direction, and for some years I thought no more of Abernethy.

As long as surgery meant riding across a forest with my father, holding his horse, or, if he stopped too long, seeing if his horse rode as well as my pony, I thought it a very agreeable occupation; but when I found that it included many other things, I soon discovered there was a profession I liked much better. Some years had rolled away, when, one afternoon in October, about the year 1816, and somewhat to my own surprise, I found myself, about two o'clock, walking down Holborn Hill on my way to Mr. Abernethy's opening lecture at St. Bartholomew's. Disappointed of being able to follow the profession I had chosen, looking on the one I was about to adopt with something very much allied to repulsion, voting every thing in this world flat and unprofitable, and painfully depressed in spirits, I took my seat at the lecture.

When Mr. Abernethy entered, I was pleased with the expression of his countenance. I almost fancied that

he could have sympathized with the melancholy with which I felt oppressed. When he commenced, I listened with some attention; as he went on, I began even to feel some pleasure; as he proceeded, I found myself entertained; and before he concluded, was delighted. What an agreeable, happy man he seems! What a fine profession! What would I give now to know as much as he does! Well, I will see what I can do. In short, I was converted.

Years again rolled on; I found myself in practice. Now I had an opportunity of proving the truth and excellence of the beautiful principles I had been taught. I found how truthful had been his representations of them. I was, however, grieved to find that his opinions and views were very much misunderstood and misrepresented, and I had very frequent opportunities of seeing how much this restricted their application and abridged their utility.

Some few years after his death, I tried to induce some one to endeavor to correct the erroneous impressions which prevailed in regard to him; but to do Abernethy full justice *would require a republication of his works, with an elaborate commentary.* This was a task involving too much time, labor, and expense for any individual to undertake; while any thing less, however useful or instructive to the public, must necessarily subject the author to a criticism which few are disposed to encounter.

But as it appeared to me that scruples like these stood in the way of that which was alike just to the

memory of Abernethy and useful to the public, I was resolved, at all hazards, to undertake at least a memoir myself. I shall say little of the difficulties of the task. I feel them to have been onerous, and I believe them to have been, in some respects, unexampled.

Apologies for imperfections in works which we are not obliged to write are seldom valued: the public very sensibly take a work for what it is worth, and are ultimately seldom wrong in their decision. I have only said thus much, not in deprecation of criticism so much as to show that I have not shrunk from what I deemed just and useful on account of the somewhat oppressive sense I entertain of the risk or difficulty which it involves.

The scientific reader may, I fear, think that, in endeavoring to avoid too tedious a gravity, I may sometimes have been forgetful of the dignity of biographical memoir; but in the difficulty of having to treat of subjects which, however important, are not always of the most popular kind, I have been obliged sometimes to think of the "*quid vetat ridentem.*" In the very delicate task of discussing subjects relating to some of my contemporaries, I have endeavored simply to do Abernethy justice; and beyond what is necessary for that purpose, have avoided any quotations or other matter calculated unnecessarily to revive or rekindle impressions which may as well be dismissed or forgotten. It may appear to some that, in my remarks on the present state of professional affairs, I may have been too free. I can only say that I have stated exactly

what I feel. I am earnestly desirous of seeing a better state of things, but I have no idea that we can materially improve that which we are afraid to examine.

I have to express my warmest thanks to several gentlemen for the readiness with which they have contributed their assistance; my most grateful acknowledgments to my respected friend, Mr. Fowler, of Datchet, and his son, Mr. Alfred Fowler, Mr. Thacker and Mr. Tummins, of Wolverhampton—three of them being old school-fellows of Abernethy's; to Mr. White, the distinguished head master of Wolverhampton School, whose acceptable services have been further enhanced by the ready kindness with which they were contributed; to Mr. Belfour, the Secretary of the Royal College of Surgeons, and Mr. Stone, the librarian, I have to express my best thanks for their kind assistance, and to the latter especially for many very acceptable contributions.

I have also to acknowledge the kind interest taken in the work by Mr. Wood, of Rochdale, Mr. Stowe, of Buckingham, old and distinguished pupils of Abernethy. My best thanks are also due to Dr. Nixon, of Antrim, not only for his own contributions, but still more for the personal trouble he was so kind as to take in relation to some particulars concerning the ancestors of Mr. Abernethy; as also to Mr. Chevasse, of Little Coldfield, for very acceptable communications; to Mr. Preston, of Norwich. I have also to express my obligation to several gentlemen whom I have consulted at various

times. My thanks are specially due to Professor Owen. My old friends and fellow-pupils, Mr. Lloyd, Dr. Barnet, Mr. Skey, and Mr. Wellbank, have shown as much interest as their opportunities allowed them, and deserve my best thanks.

MEMOIRS OF ABERNETHY.

CHAPTER I.

"The Author of Nature appears deliberate throughout His operations, accomplishing His natural ends by slow, successive steps. And there is a plan of things beforehand laid out, which, from the nature of it, requires various systems of means, as well as length of time, in order to the carrying on its several parts into execution."—BUTLER'S ANALOGY.

A RETROSPECT of the history of human knowledge offers to our contemplation few things of deeper interest than the evidence it so repeatedly affords of some great law which regulates the gradual development of truth, and determines the Progress of Scientific Discovery.

Although knowledge has at times appeared to exhibit something of uniformity in its advances, yet it can not have escaped the least observant that, as a whole, the Progress of Science has been marked by very variable activity. At one time marvelously rapid; at another, indefinitely slow; now merged in darkness or obscurity, and now blazing forth with meridian splendor.

We observe a series of epochs divided by intervals of great apparent regularity—intervals which we can neither calculate nor explain—but which, nevertheless, exhibit a periodicity, which the very irregularity serves to render striking and impressive.

We may remark, also, a peculiar fitness in the minds of those to whom the successive enunciation of truth has been intrusted: a fitness, not merely for the tasks which have been respectively assigned to each in the special mission of the individual, but also in the collective relations of different minds to each other. This adaptation to ends which different minds have unconsciously combined to accomplish, might be illustrated by very many examples, from the earliest records of antiquity down to our own times. This would be incompatible with our present purpose; we will, therefore, only refer to one or two examples, which, as being familiar, will serve to illustrate our meaning, and to lead us, not unnaturally, to our more immediate object.

We can hardly contemplate men like Bacon, Galileo, and Kepler, for example, without feeling how auspicious the precession of such minds must have been to the development of the genius of Newton.* It will be observed that Newton was born the same year that Galileo died. There is something very interesting and significant, too, in the peculiar powers of Kepler. Prolific in suggestion, great in mathematical ability, elaborate in analysis, and singularly truthful in spirit, Kepler exemplified two things very distinct from each other, but both equally instructive, both alike suggestive of the link he represented in the chain of progress. In the laws he discovered, he showed the harvest seldom withheld from the earnest search for truth, while in

	Born.	Died.
* Galileo	1564	1642
Kepler	1571	1630
Bacon	1561	1626
Newton	1642[a]	1727

[a] The same year that Galileo died.

the limit prescribed to his discoveries, he exemplified the vast additional labor, and the comparative shortcoming of the greatest minds when proceeding too much on hypothesis. Now it is interesting to remember that this was coincident with the dawning of that glorious light, the inductive philosophy of Bacon, and shortly succeeded by the splendid generalization of Newton.

In like manner, if we think of the discoveries of Sir Humphrey Davy—their nature and relations to physiology as well as chemistry, we see how much there might have been that was preparatory, and to a mind like Davy's, suggestive, in the investigations of preceding and contemporaneous philosophers. Priestley had discovered oxygen gas, Galvani and Volta had shown those remarkable phenomena—that powerful branch of knowledge which we term a voltaic electricity, Berzelius had effected the decomposition of certain salts by the voltaic pile, and Lavoisier had even predicted as *probable* what Davy was destined to demonstrate.*

In medical science few things have been more talked of than the discovery of the circulation of the blood. Now it is curious to observe that every fact essential to the demonstration of it had been discovered by previous investigators,† but no one had deduced from

	Born.	Died.
* Priestley	1733	1804
Galvani	1737	1798
Volta	1745	1826
Lavoisier	1743	1794
Crauford	1749	1795
Hunter	1728	1793
Davy	1778	1829

† The valvular contrivances in the veins and heart, which showed that the blood could only move in one direction, had been either

them the discovery of the circulation until Harvey, although it was a conclusion scarcely more important than obvious.

There is surely something very encouraging in the reflection that the advance of knowledge results from the accumulated labors of successive minds. It suggests that however unequally the honors may appear to be distributed—however humble in our eyes the function of those who unconsciously prepare the way to great discoveries, still it may involve a duty no less important than the more lofty mission of enunciating them.

Humanly speaking, we naturally ascribe discoveries to those who have practically demonstrated them; but when we examine all the clews which have been furnished by previous observers, we frequently have misgivings as to the justice of our decisions. In our admiration of the successful labor of the recent inquirer, we sometimes forget the patient industry of the early pioneer. With regard to those laws which govern the human body, we can not suppose that the development of them can be destined to progress on any plan less determined than other branches of human inquiry. But in all laws of nature, we know that there are interferences which, until explained, serve to obscure or altogether to conceal the law from our view.

In relation to the Physiological laws, these interferences are very numerous. 1st. Many are furnished by the physical laws, many arise from the connection

observed, described, or their effects respectively remarked on by Paul, Sylvius, Michael Servetus, Realdus Columbus, Andreas Cesalpinus, and especially by Fabricius ab Aquapendente, of whom Harvey was a pupil.

of the physical with the moral laws, and especially from the abuse of a (responsible) volition. These interferences, however, when duly considered, only illustrate the laws they at first obscure; for the common characters of subjects, in which the law is usually exemplified, are brought out into higher relief by the very diversities in the midst of which they occur. The progress of mankind at large toward this point is slow, but still, we think, plainly perceptible. An individual life, indeed, however distinguished, represents a mere point in time. It affords little scope for considering, much less for estimating the true meaning of various events, which nevertheless ultimately prove to have had important influence on the progress of knowledge.

These are world-wide things, which we must survey as the geologist does the facts concerning which he inquires. We must endeavor to combine, in one view, facts over which long periods of time may have rolled away with such as are still passing around us. This will frequently suggest designs and relations altogether unobservable by the mere abstract inquirer. In the course of the following pages, a further opportunity may occur for a few remarks on such views—the elaborate discussion of the subject would be altogether beyond our present objects.

It will be our endeavor to point out the position occupied by Abernethy in that (as we trust) gradually dawning science, to a particular phase of which our object and our limits will alike restrict our attention—we mean that period when Surgery, having approached to something like a zenith as a mere practical *art*, began to exhibit, by slow and almost imperceptible degrees, some faint characters of science—a shadowy

commencement of a metamorphose, which we believe promises to convert (though we fear at a period yet distant) a monstrous hybrid of mystery and conjecture into the symmetrical beauty of an inductive science—a science based on axioms and laws, powerfully influential to the social progress and to the health of nations.

In considering Hunter and Abernethy, we shall see not only a remarkable adaptation for the tasks in which they were respectively engaged, but also how the peculiar defects of the one were supplied by the characteristic excellences of the other; thus co-operating in throwing open to us clear and definite objects, which, though far as they were from fulfilling the requisitions of an inductive science, were eminently calculated to lead us to stumble on the necessity of it.

We no sooner begin to inquire with clear and definite purpose, than we are led to the means necessary for the attainment of it.

Abernethy himself, in speaking of the ordinary resources of daily practice, used to say, "If a man has a clear idea of what he desires to do, he will seldom fail in selecting the proper means of accomplishing it."

So, in gathering the materials for building up a science, the first thing is to be clear as to those things in which it is deficient. This once determined, all may lend assistance; and this very division of labor, when directed with definite purpose, may render even men most addicted to narrow and partial inquiries contributary to a great and common object.

In this way those blows and discouragements so common in the infancy of science, which test our motives and try our patience, may prove tolerable when

distributed over the many, instead of proving, as is too common, depressing or destructive to the efforts of the few.

If we desire to shorten this labor, we need scarcely say there is no way of doing it but by the rigid adoption of that mode of proceeding to which every other branch of science owes its present position.

I mean the rejection of all hypothesis, setting to work by collecting *all* the facts in relation to the subject, and dealing with them in strict compliance with the precepts of common sense, or, what is the same thing, inductive philosophy.

This will soon show us the just amount of the debt we owe to Hunter and Abernethy; and, in leading us onward, instructively point out why these great men did not further increase our obligations.

We shall see how the industry and circumspection of the Argus-eyed Hunter, as Abernethy used to call him, enabled him to unfold a legend in nature which he had neither length of days, sufficient opportunity, nor perhaps aptitude wholly to decipher, and how far it was developed into practical usefulness by the penetrative sagacity and happy genius of Abernethy, which, like light in darkness, guides and sustains immediate research, and animates and encourages onward inquiry. To appreciate Abernethy, however, it is necessary that the public should have correct views, at least, of the *general* nature and objects of Medical Science.

We hope to show in this volume that the public have not only a very real interest in a sound common-sense view of the objects of medicine and surgery, but a far deeper interest than it is possible for any one medical man to have merely as such, or all medical

men put together. This may, to those who have not considered the matter, appear new, and therefore startling, but we only beg the reader to be patient, and by-and-by he will be able to judge for himself.

It is right, however, at once to observe, that mankind have been taught or induced to believe that the objects of medicine and surgery are to prevent or relieve diseases and accidents by the astute employment of drugs, or by certain adroit manipulatory or mechanical proceedings, and, *par excellence*, by "operations." Now here is a great error—an idea so far from true, that nothing can more delusively define, or more entirely conceal the higher objects of the science.

The converse of the proposition would be nearer the truth. It would be more correct to say, that while the object was to relieve diseases and accidents by removing all interferences with the reparative powers of nature, that this was accomplished more perfectly in proportion as we were enabled to dispense with the employment of drugs or the performance of operations.

The making the lame to walk, the blind to see, and the deaf to hear, were chosen among the appropriate symbols of a Divine Mission; and we need scarcely observe, that in the restricted sphere of human capacity, this is a portion of the mission of every conscientious surgeon.

We may well, therefore, be dissatisfied with the narrow, not to say degrading definition of our duties too generally entertained; but, on the other hand, if we would make these more lofty views of our calling practically useful, we should recollect there is only one way of our attaining even human approximation to these symbols, and that is by the applied interpreta-

tion of those no less miraculous symbols, no less certain manifestations of Divine Power, the "Laws of Nature." To name a science from something not essential to it, is like naming a class of animals from some exceptional peculiarity in an individual. It is as if we would infer the mission of the ocean wave from the scum sometimes seen on its surface, or as if we would deduce the use of a feather, not from its common character of levity and toughness, so much as from the use we make of it in writing; treat an exception as a rule, or any other manifest absurdity.

We hope to return to this subject. At present we must rest satisfied in having awakened the reader's attention to it, and proceed to the more ordinary objects of Biographical Memoir.

John Abernethy was born in London, in the parish of St. Stephen's, Coleman Street, on the 3d of April, 1764, exactly one year after John Hunter settled in London. It is also interesting to remark, that Abernethy's first work—his "Surgical and Physiological Essays," Part I.—was published the same year that Hunter died, 1793, so that while his birth occurred nearly at the same time as the commencement of the more sustained investigations of Hunter, his opening contribution to science was coincident with the close of the labors of his illustrious friend and predecessor.

The Abernethy family, in their origin, were possibly Scotch, and formed one of those numerous intermigrations between Scotland and the North of Ireland which, after lapse of time, frequently render it difficult to trace the original stock. There seems little doubt they had resided for some generations in Ireland.

John Abernethy, who was the pastor of a Coleraine congregation in 1688, was an eminent Protestant Dissenting minister, and the father of one still more distinguished. The son (also named John) had been for some time pastor of the old congregation of Antrim, whence he removed to Dublin about the year 1733, to take charge of the Wood Street, now Strand Street, Dublin. He is the author of several volumes of sermons, which are not a little remarkable for the clearness of thought and earnestness of purpose with which they inculcate practical piety. He had a son who was a merchant, who subsequently removed to London, and traded under the firm of Abernethy and Donaldson, in Rood Lane, Fenchurch Street. This gentleman married a lady whose name was Elizabeth Weir, daughter of Henry and Margaret Weir, of the town of Antrim, and they had two sons and three daughters.

James, the elder brother, was also in business as a merchant, and died about the year 1823. He was a man of considerable talent, spoke with an accent suggestive of an Irish origin, and was remarkable for his admiration and critical familiarity with our immortal Shakspeare. He was probably born before his father left Ireland. John, the second son, the subject of our Memoir, was, as we have already said, born in London. The register of his christening at St. Stephen's is as follows:

1765.
Abernethy { John, son of John and Elizabeth, April 24.

This register would suggest that he was born a year later than I have stated. I have, however, preferred 1764 as the year adopted by his family; for, although

a man's birth is an occurrence respecting the date of which he is not the very best authority, he usually gets his information from those who are. Besides, it was no uncommon thing at that time to defer the christening of children for a much longer period. The education of his early childhood was most likely altogether conducted at home, but it is certain that, while yet very young, he was sent to the Grammar School at Wolverhampton. Here he received the principal part of his education, and though the records are somewhat meagre, yet they tend to show that at an early age he manifested abilities, both general and peculiar, which were indicative of no ordinary mind; and which, though they do not necessarily prefigure the future eminence at which he arrived, were sufficiently suggestive of the probability that, whatever his career might be, he would occupy a distinguished position.

CHAPTER II.

"Ah, happy hills! ah, pleasing shade!
Ah, fields beloved in vain,
Where once my careless childhood stray'd
A stranger yet to pain."—GRAY.

MANKIND naturally feel an interest in the boyhood of men of genius.

But it often happens that very little attention is paid to early indications, and, when observed, it is certain that they are often interpreted very falsely.

Nothing more emphatically suggests how much we have to learn on this subject, than the obscurity which so often hangs over the earlier years of distinguished

men. At school, a number of variable organizations are subjected to very much the same order of influences; the necessity for generalization affords little opportunity for individual analysis. The main road is broad and conventional; there is little scope for by-paths, even should the master have the penetration to perceive, in individual cases, the expediency of such selection. Hence the quickening of those impulses, on which the development of character so much depends, is greatly a matter of uncertainty. The moment boys leave school, on the contrary, this uniformity of external influences is replaced by an interminable diversity, at home scarcely two boys being subjected to exactly the same. Thus, in many instances, it would be easier to deduce the character of the boy from the man, than to have predicted the man from the boy. The evidences of the one are present to us, those of the other may have been entirely unelicited, unobserved, or forgotten.

We can not wonder, then, that expectation should have been so often disappointed in the boy, or that excellences little dreamed of should have been developed in the man.

Dryden, who, regarded in the triple capacity of poet, prose writer, and critic, is hardly second to any English author, took no honor at the University. Swift, perhaps our best writer of pure English, whose talents proved scarcely less versatile and extraordinary than they had appeared restricted and deficient, was "plucked" for his degree in Dublin, and only obtained his recommendation to Oxford "*speciali gratia*," as it was termed. The phrase, however, being obviously equivocal, and used only in the bad sense at Dublin, was,

fortunately for Swift, interpreted in a good sense at Oxford, a misapprehension which Swift, of course, was at no pains to remove.

Sheridan was remarkable for his readiness and wit; as a writer, he showed considerable powers of sustained thought also. He had an habitual eloquence, and on one occasion delivered an oration before one of the most distinguished audiences that the world ever saw,* with an effect which seems to have rivaled the most successful efforts of Cicero, or even Demosthenes. Yet he had shown so little capacity as a boy, that he was presented to a tutor by his own mother with the complimentary accompaniment that he was an incorrigible dunce.

Some boys live on encouragement, others seem to work best up stream. Niebuhr, the traveler, the father of a son no less illustrious, with any thing but an originally acute mind, seems to have overcome every disadvantage which the almost constant absence of opportunity could combine. Those who are curious in such matters might easily multiply examples of the foregoing description, and add others where—as in the case of Galileo, Newton, Wren, and many others—the predictions suggested by early physical organization proved as erroneous as the intellectual indications to which we have just adverted.

The truth is, we have a great deal to learn on the subject of mind, although there is no want of materials for instruction. Medicine and surgery are not the only branches of knowledge which require the aid of strictly inductive inquiry. In all, the materials (facts) are abundant.

* We allude to his first speech on the trial of Warren Hastings.

In Abernethy there was a polarity of character, an individuality, a positiveness of type, which would have made the boy a tolerably intelligible outline of the future man. The evidence is imperfect; it is chiefly drawn from the recollections of a living few, who, though living, have become the men of former days; but still the evidence all inclines one way.

We can quite imagine a little boy, "careless in his dress, not slovenly," with his hands in his pockets, some morning about the year 1774, standing under the sunny side of the wall at Wolverhampton Grammar School;* his pockets containing, perhaps, a few shillings, some halfpence, and a knife with the point broken, a pencil, together with a tolerably accurate sketch of "Old Robertson's" wig—this article, as shown in an accredited portrait† now lying before us, was one of those enormous by-gone bushes which represented a sort of impenetrable fence round the cranium, as if to guard the precious material within—the said boy just finishing a story to his laughing companions, though no sign of fun appeared in him, save a little curl of the lip, and a smile which would creep out of the corner of his eye in spite of him. I have had the good fortune to find no less than three school-fellows of Abernethy who are still living: John Fowler, Esq., of Datchet, a gentleman whom I have had the pleasure of knowing for many years, and who enjoys in hon-

* Wolverhampton School, founded by Sir Stephen Jermyn, Alderman and Knight of the City of London, in the reign of Henry VIII., for the "Instruction of youth in morals and learning." Many distinguished men were educated at the school, as Abernethy, Mr. Tork fellow of Trinity College, Cambridge, Sir William Congreve, and others. The present head master is the Rev. W. White.

† Kindly sent us by Mr. Fowler, of Datchet.

orable retirement at his country seat, at the age of eighty-two, the perfect possession of all his faculties; William Thacker, Esq., of Muchall, about two miles from Wolverhampton, who is in his eighty-fifth year; T. Tummins, Esq., of King Street, Wolverhampton, who is in his eighty-seventh year, school-fellows. To these gentlemen, and to J. Wynn, Esq., also of Wolverhampton, I am principally indebted for the few reminiscences I have been able to collect of the boyish days of Abernethy.

The information which I gained from Mr. Fowler he gave me himself; he also kindly procured me a long letter from Mr. Wynn. The reminiscences of Mr. Tummins and Mr. Thacker I have obtained through the very courteous and kind assistance of the Rev. W. White, the present distinguished head master of the Wolverhampton School.

To all of these gentlemen I can not too strongly express my thanks for the prompt and kind manner in which they have replied to all the inquiries which have been addressed to them. The following are the principal facts which their letters contain, or the conclusions they justify. Abernethy must have gone to Wolverhampton when very young probably, I should say certainly before 1774. He was brought by Dr. Robertson from London with another pupil, "his friend Thomas;" and the "two Londoners" boarded with Dr. Robertson. When Mr. Fowler went there in 1778, Abernethy was high up in the school, and ultimately got to the head of the senior form. He must have left Wolverhampton certainly not later than 1778, because Dr. Robertson resigned the head mastership in that year; and we know that in the following year, 1779,

when he was fifteen, he was apprenticed to Sir Charles Blicke.

Mr. Thacker says he was very studious, clever, a good scholar, humorous, but very passionate. Mr. Tummins, Mr. Thacker says, knew Abernethy well. Abernethy used to go and dine frequently with Mr. Tummins's father. Mr. Tummins says Abernethy was a sharp boy, "a very sharp boy," and a very passionate one too. Dr. Robertson, he says, was also a very passionate man.

One day Abernethy had to "do" some Greek Testament, and it appeared that he set off very glibly, having a "crib," in the shape of a Greek Testament, with a Latin version on the other side. The old doctor, suspecting the case, discovered the crib, and the pupil was instantly "leveled with the earth." This *fortiter in re* plan of carrying the intellect by a *coup-de-main* has, as the present head master observes, been replaced by more refined modes of proceeding. The more energetic plan was, however coarse and objectionable, not always unsuccessful in implanting a certain quantity of Latin and Greek. Abernethy was a very fair Latin scholar, and he certainly had not a bad knowledge of Greek also.

There are, however, many other things to be learned besides Latin and Greek; and it is probable that the more measured reliance on such violent appeals, which characterizes modern education, might have been better suited to Abernethy. To a boy who was naturally shy, and certainly passionate, such mechanical illustrations of his duty were likely to augment shyness into distrust, and to exacerbate an irritable temper into an excitable disposition.

Abernethy, in chatting over matters, was accustomed jocularly to observe that, for his part, he thought his mind had on some subjects what he called a "*punctum saturationis;*" so that "if you put any thing more into his head, you pushed something out." If so, we may readily conceive that this plan of forcing in the Greek might have forced out an equivalent quantity of patience or self-possession. It is difficult to imagine any thing less appropriate to a disposition like Abernethy's than the discipline in question. It was, in fact, calculated to create those very infirmities of character which it is the object of education to correct or remove.

It seems that neither writing nor arithmetic were taught in the school; and "Tummins and Abernethy" used to go to learn these matters at the school of a Miss Ready, in King Street, Wolverhampton. This lady appears to have had, like Dr. Robertson, a high opinion of what the profession usually term "local applications" in the conduct of education. Many years afterward she called upon Mr. Abernethy. He was then in full practice in London. He received her with the greatest kindness; begged her to come and dine with him as often as she could while she stayed in London; and introducing her to Mrs. Abernethy, said, "I beg to introduce you to a lady who has boxed my ears many a time."

Had Miss Ready, however, heard us call in question this association of boxing ears and quill-driving, she would probably have retorted on us that few men wrote so good a hand as John Abernethy. It is also perfectly certain that, *brusque* as the discipline might have been, and ill suited to the disposition of Abernethy, it

did not interfere with the happiness of his school-boy life. He always looked back to his days at Wolverhampton with peculiar pleasure, and seemed to regard every association with the place with affectionate remembrance.

Mr. Wynn observes in his letter: "About twenty years ago I accompanied a patient to Mr. Abernethy. After prescribing, he said, 'Let me see you again in about a week.' 'We can not, for we are returning into the country.' 'Why, where do you live?' 'Wolverhampton.' 'Wolverhampton? Why, I went to school there. Come, sit down, and tell me who's alive and who's dead.' After running over the names of some of the old families, their health, circumstances, &c., he wished us good-morning, saying, 'Ah! I can not forget Wolverhampton.'"

Mr. Thacker's note I subjoin, written in a good, firm hand at eighty-five:

Murchall, near Wolverhampton, May 17, 1852.

"Sir,—As a boy, I remember John Abernethy and William Thomas coming from London to board with, and as scholars to, Dr. Robertson, the head master of the Wolverhampton School, in which there were two masters, both clergymen. We were formed into several classes, in which John Abernethy, William Thomas, Walter Acton Mosely, and myself, formed one. Abernethy took the head or top of the class. The boys used to change places in the classes according to their proficiency, but I do not recollect that Abernethy ever took a third place in the class. So also in his sports, he usually made a strong side, for he was remarkably quick and active, and soon learned a new

game. He had but one fault that I knew of—he was rather hasty and impetuous in his manner, but it was soon over and forgotten.

"The 'Doctor,' as we used to call him (Robertson), had a daughter grown up, and she used to hear the boarders in the house read plays before her father, in which, in particular passages, she showed where the emphasis should be laid, and how to pronounce the same properly; this occasioned the use of the play of 'Cato,' and originated the boys' performance of that play in the school-room before their fathers and friends. I do not remember the part that Abernethy took in that play. I have applied to Mr. Tummins, of Wolverhampton, but his memory does not supply information. He knew Mr. Abernethy well.

"If I recollect any others of my school-fellows who knew him, I will apply to them for information, and communicate the same to you immediately.

"I am, Sir, your obedient servant,

"WILLIAM THACKER.

"To George Macilwain, Esq."

We learn from another reminiscent that in the play at Wolverhampton Abernethy took a "principal part." He certainly had a good deal of dramatic talent, in the highest sense of the word; and, as will be seen in the sequel, could light up a story with rich humor, or clothe it with pathos, as suited the occasion, with equal facility. There is much in these school reminiscences, scanty as they are, significent of his future character.

As we have observed, Abernethy left Wolverhampton in 1778. He was then head of the school, a quick, clever boy, and more than an average scholar. He returned to London, that world of hopes, fears, and

anxieties, that spacious arena, on which all are desirous of entering as competitors who are ambitious of professional or commercial distinction.

CHAPTER III.

Nunquam ita quisquam bene subductâ ratione ad vitam fuit
Quin res, ætas, usus, semper aliquid apportet novi
Aliquid moneat; ut illa quæ te scire credas, nescias:
Et quæ tibi putâris prima, in experiundo repudias.
TER., Act v., Sc. 4.

Never did man lay down so fair a plan,
So wise a rule of life, but fortune, age,
Or long experience made some change in it,
And taught him that those things he thought he knew,
He did not know, and what he held as best
In practice, he threw by.—COLMAN.

CIRCUMSTANCES in themselves apparently unimportant, often determine the selection of a profession. Few boys can do exactly what they please, and the *pros* and *cons* are seldom placed before them in a way to assist them in determining the just value of the reasons on which their choice may have proceeded. They are not, indeed, unfrequently dealt with as if, while not incompetent to make choice of a profession, they were held incapable of weighing the circumstances by which alone such choice could be judiciously directed. The absurdity of this appears when we think a moment of what it involves, which is nothing less than expecting them to do what is impossible, viz., to form an opinion on a subject, when the main facts in relation to it are withheld from them. Be this as it may, every day shows us that men are too frequently dissat-

isfied with the profession which they follow. The question of our boyhood recollections

> "Qui fit Mæcenas ut nemo quam sibi sortem,
> Seu ratio dederit seu fors objecerit, illa,
> Contentus vivat?"

is just as applicable as ever; and although human nature has almost every thing ascribed to its natural infirmities, yet it appears quite as sensible, and not a whit less humble, to conclude, that paths chosen without consideration naturally lead to disappointment. The evil, like most others, carries with it the elements of self-correction.

Parents are slow to encourage their children to imitate a course on which they themselves look back with regret. This, of course, tends to distribute their professions to other families. Mutual interchanges of this kind tend to protect the interests of society from an indefinite multiplication of failures in men selecting the pursuits best adapted to them.

In almost all pursuits of life, success is determined, much more than many are disposed to imagine, by the homely qualities of steadiness and industry. We are apt—and sometimes not improperly, certainly—to ascribe peculiar *excellence* to peculiar powers. Yet the more we discover of the histories of great men, the more we perceive how constantly the more special have been aided by the more homely qualifications to which we have adverted.

No doubt some minds are so constituted as to be moderately certain of success or distinction in almost any pursuit to which they might have been directed, and we are disposed to think that Abernethy's was a mind of that order; but there is abundant evidence to

show that his talents were at least equaled by his industry. One paper of his, which contains a beautiful and discriminative adjustment of a difficult point of practice in Injuries of the Head, and which contains no intrinsic evidence of such industry, was only prepared after he had attended to every serious injury of the head in a large hospital for almost twenty years, besides examining the bodies of all the fatal cases. Nor can we estimate this industry properly without recollecting that all this time he was an *assistant surgeon* only, whose duties for the *most* part neither required nor *permitted* him to do more than to observe the treatment, and that therefore the whole of this industry was simply in the character of a student of his profession.* All biography is full of this kind of evidence; and art, as well as science, furnishes its contribution. Who could imagine that the peculiarly chaste composition, easy and graceful touch of Sir Augustus Callcott, could have owed so much to industry as it undoubtedly must have done? It is known, for example, that he made no less than forty different sketches in the composition of one picture. We allude to his "Rochester." Had Abernethy been allowed to choose his profession, there can be no doubt but that he would have selected the Bar. It is impossible for any one to consider the various powers he evinced, without feeling that, had he followed the Law, he would have arrived at a very distinguished position. "Had my father let me be a lawyer," he would say, "I should have known every Act of Parliament by heart." This, though no doubt intended as a mere figure of speech, was not so far from

* The assistant surgeons have no *in*-patients under their care except in the absence or by permission of their chiefs.

possibility as might be imagined, for it referred to one of his most striking characteristics, viz., a memory alike marvelously ready, capacious, and retentive—qualities common enough separately, but rare in powerful combination.

We may have opportunities by-and-by, perhaps, of further illustrating it. We will give one anecdote here. A gentleman, dining with him on a birth-day of Mrs. Abernethy's, had composed a long copy of verses in honor of the occasion, which he repeated to the family circle after dinner. "Ah!" said Abernethy, smiling, "that is a good joke now, your pretending to have written those verses." His friend simply rejoined that, such as they were, they were certainly his own. After a little good-natured bantering, his friend began to evince something like annoyance at Abernethy's apparent incredulity; so, thinking it was time to finish the joke, "Why," said Abernethy, "I know those verses very well, and could say them by heart." His friend declared it to be impossible, when Abernethy immediately repeated them throughout correctly, and with the greatest apparent ease. To return. However useful this quality might have been at the Bar, Abernethy was destined to another course of life—a pathway more in need, perhaps, of that light which his higher qualifications enabled him to throw over it, and which his position "in time" afforded him an opportunity of doing just when it seemed most required. He probably thus became, both during life and prospectively, the instrument of greater good to his fellow-creatures than he would have been in any other station whatever.

I have not been able to discover what the particular

circumstances were which determined his choice of the medical profession. It is probable that they were not very peculiar. A boy thwarted in his choice of a profession is generally somewhat indifferent as to the course which is next presented to him; besides, as his views would not have been opposed but for some good reason, a warm and affectionate disposition would induce him to favor any suggestion from his parents. Sir Charles Blicke was a surgeon in large practice; he lived at that time in Mildred's Court, and Abernethy's father was a near neighbor, probably in Coleman Street.

Abernethy had shown himself a clever boy, a good scholar; and he was at the top of Wolverhampton School before he was fifteen. Sir Charles Blicke was quick-sighted, and would easily discover that Abernethy was a "sharp boy." All that Abernethy probably knew of Sir Charles was that he rode about in his carriage, saw a good many people, and took a good many fees, all of which, though probably presenting no particular attractions for Abernethy, made a *primâ facie* case, which was not repulsive. Accordingly, in the year 1779, being then fifteen years of age, he became bound an apprentice to Sir Charles, and probably for about five years.

This first step, this apprenticing, has a questionable tendency as regards the interests of the public and the profession. It exerts also a considerable influence on the character and disposition of the boy, which we must by-and-by consider. It is a mode of proceeding which we fear has done not a little to impede the progress of surgery as a science, and to maintain that handcraft idea of it suggested by the etymology of the

word. Where one man strikes out a new path, thousands follow the beaten track.

A boy with his mind ill prepared, having no *definite* ideas of the nature and objects of scientific inquiries, and almost certainly uninstructed as to the rules to be observed in conducting them—knowing neither any distinction between an art and a science—a boy thus conditioned is bound for a certain number of *years!* to a man of whom he knows little, and to a profession of which he knows nothing. He takes his ideas and his tone from his master, or, if these be repulsive to him, he *probably takes an opposite extreme.* If the master practices his profession merely as an art, he furnishes his pupil with little more than a string of conventionalisms; when, if the pupil has talent enough to do any thing for himself, he is tolerably certain to have a great deal to unlearn.

We believe the system is in course of improvement; it is high time it was put an end to altogether. Apprenticeships might not have been an inauspicious mode of going to work in former times, when there existed barber-surgeons. This alliance of surgery and shaving, to say nothing of the numerous other qualifications with which they were sometimes associated, conceivably enough furnished some pretext for apprenticeships, since Dickey Gossip's definition of

> "Shaving and tooth-drawing,
> Bleeding, cabbaging, and sawing,"

was by no means always sufficiently comprehensive to include the multifarious accomplishments of "the doctor." I have myself seen in a distant part of this island, within twenty-five years, chemist, druggist, surgeon, apothecary, and the significant &c. followed by

the hatter, hosier, and linen-draper in one establishment; but as we shall have to discuss this subject more fully in relation to Abernethy in another place, we may proceed.

Sir Charles Blicke had a large and lucrative practice. He had the character of taking care to be well remunerated for his services. He amassed a considerable fortune; but we incline to think the impressions of the profession which Abernethy derived from the experience of his apprenticeship were not unfavorable. The astute, business-like mode of carrying on the profession, which seems to have characterized Sir Charles Blicke's practice, could have few charms for Abernethy. The money-making character of it had never much attraction for him, and at that period of his life probably none at all, while the measured pretensions of it to any thing like a science could hardly have been at times otherwise than repulsive.

The tone in which he usually spoke of Sir Charles's practice did not convey a very favorable idea of the nature of the impression which it had left on him. In relating a case he would say, "Sir Charles was at his house in the country, where he was always on the look-out for patients." On another occasion, speaking of patients becoming faint under peculiar circumstances, he observed, "When I was an apprentice, my master used to say, 'Oh, sir! you are faint; pray drink some of this water.' And what do you think was the effect of his putting cold water into a man's stomach under these circumstances? why, of course, that it was often rejected in his face."

Sir Charles's manipulatory and operative proceedings seem, however, to have represented a tolerably

adroit adoption of the prevailing modes of practice, while his medical surgery consisted chiefly of the empirical employment of such remedies as he had found most frequently successful, or, at all events, somehow or other associated with a successful issue, with the usual absence of any investigation of the cause of either success or failure. By a mind like Abernethy's, this sort of routine would be very soon acquired, and in a short time estimated at its real value. Still, while a clear head is all that is necessary to the reception of what may be positive and truthful, it requires a vivid perception and a cultivated understanding to detect error. Many things, however, would creep out in Abernethy's lectures, showing that, young as he was, even during his apprenticeship, he was not only a real student, but he had begun to think for himself.

He mentions a case of "Locked-jaw," that occurred as early as 1780, in the first year of his apprenticeship, which he appears to have noted with great accuracy. He mentions the powerful medicine that was given to the man, the doses, and, lastly, the enormous quantity of it which was found in the stomach after death. It was opium, and amounted to many drachms.

We also find him engaged in inquiries involving much more extended views than were in that day *generally* associated with the study of *surgery*. He very early participated in those researches which had for their object to determine the relation of the digestive functions to one of the most recondite affections of an extremely important organ (the kidney).

"When I was a boy," said he, "I half ruined myself in buying oranges and other things, to ascertain the effects of different kinds of diet in this disease."

The same researches show how early also he began to perceive the importance of chemistry in investigating the functions of different organs, and in aiding, generally, physiological researches. We have heard a contemporary and a lecturer on chemistry attest Abernethy's proficiency in that science. As his investigations proceeded, he had the still higher merit of taking *just and sober views* of the relations of chemistry to physiological science.

We mean that while he fully recognized the importance of it, he entirely avoided that *exclusive* reliance on it which is too often created by some of the more striking demonstrations of chemical science; that one —idea—tendency, which unconsciously wrests it to the solution of phenomena which, in the *present state* of our knowledge, it is wholly inadequate to explain. We have alluded to the foregoing facts touching the impressions derived from his apprenticeship, and his early disposition for philosophical research, because both will be found to have relations to his subsequent labors and peculiarities. Diligent as he was, we suspect he found little during his apprenticeship of those attractions which make labor and industry sources of pleasure and enjoyment.

As a matter of course, he would have been allowed to attend any lectures which were given at the hospital to which Sir Charles Blicke was surgeon (St. Bartholomew's), and they would bring him in contact with Mr. Pott, who delivered a certain number of surgical lectures there.

There were no *courses* of anatomical lectures given at St. Bartholomew's at that period, but anatomical lectures were delivered regularly at the London Hos-

pital by Dr. Maclaurin and Sir William Blizard, and afterward by Sir William Blizard alone. As Sir Charles Blicke lived in Mildred's Court, and subsequently in Billiter Square, Abernethy would be about equidistant from the two hospitals, both of which he attended. We incline to think that it was in attending the lectures, and perhaps especially those of Sir William Blizard, that he first found those awakening impulses, which excited in him a real love for his profession.

It was about this time, we think, that he began to have more enlarged ideas of the nature and objects of surgical science; a state of mind calculated to enable him to thoroughly understand and appreciate Mr. Hunter, and to deduce from the principles which he was shadowing forth those relations and consequences which we shall endeavor popularly to explain; principles which, though originally directed to the treatment of so-called surgical maladies, were found equally to affect the practice of medicine.

CHAPTER IV.

There is not a more pleasing exercise of the mind than gratitude. Were there no positive command which enjoined it, nor any recompense laid up for it hereafter, a generous mind would indulge in it for the natural gratification which accompanies it.—Addison.

Sir William Blizard was an eminent surgeon and an enthusiastic student of the profession, as studied in his day. He had a certain bluntness of manner, which was not unkind neither. He was very straightforward, which Abernethy liked; and he had nothing of a mercenary disposition, which Abernethy held in abhorrence. He was a kind of man very likely to excite

in one of Abernethy's tone of mind very agreeable impressions. He early perceived the talents, and was probably the first to encourage the industry, of his distinguished pupil. Enthusiastic himself, he had the power of communicating a similar feeling to many of his pupils; and he appears to have contributed one of those impulses to Abernethy which are from time to time necessary to sustain the pursuit of an arduous profession.

Some men seem to like anatomy for its own sake; examinations of structure merely, by dissection or the microscope, have a fund of intrinsic charm for them. This was not the case with Abernethy. *Mere* anatomy had few charms for him. He regarded it in its true light, as a means to an end—as the basis on which he could alone found, not only the mere common or handcraft duties of surgery, but also those higher views which aim at ascertaining the uses and relations of the various organs; to ascertain in this way what the processes of nature were in the preservation of health and the conduct of disease—in short, a knowledge of what he called physio-pathology.

Sir William, therefore, in exciting Abernethy's enthusiasm at this time, was probably of great service. He was thus impelled to pursue the study of anatomy, which perhaps might otherwise have failed to interest him sufficiently, while it by no means diverted his attention from the real purposes of that study. On the contrary, he always saw anatomy, as it were, through a physiological medium. This threw a pleasure into his anatomical studies, and was *one* of the means by which, in his own lectures, he contrived to impart an interest to the driest parts of our studies.

Many years afterward, he was fond of illustrating the true relations of anatomy and physiology; and at the same time contrasting the attractions of the one with the comparatively repulsive requisitions of the other, by saying with Dr. Barclay, of Edinburgh, that "he never would have wedded himself to so ugly a witch (anatomy) but for the dower she brought him (physiology)." The impressions which he derived from Sir William Blizard were deep and durable. More than thirty years after, when he himself was at the zenith of his career, we find his grateful feeling toward Sir William still glowing warm as ever. He seems to have considered it as the most appropriate opening to the first of the beautiful lectures which he delivered at the College of Surgeons in 1814. It must have been a moment of no small gratification to Sir William, who was present, now venerable with age, to have found that the honorable course of his own younger days, and the purity and excellence of his precepts, had all been garnered up in the heart of his grateful and most distinguished pupil; nor could the evidence of it be more striking than to hear it heralded forth before an audience composed of the most venerable and experienced, as well as of the most rising members of the profession; and, to crown the whole, with an eloquence at once modest and emotional, impressive of the depth and sincerity with which the eulogium was delivered.

It is difficult to imagine a scene more moving to the master, more gratifying to the pupil, or more honorable to both. As the style was very characteristic, we select a few passages. He commences the lecture by saying of Sir William Blizard that "he was my earliest instructor in anatomy and surgery, and I am greatly

indebted to him for much valuable information. My warmest thanks are also due to him for the *interest he excited in my mind toward these studies*, and for his excellent advice. 'Let your search after truth,' he would say, 'be eager and constant. Be wary in admitting propositions to be facts before you have submitted them to the strictest examination. If after this you believe them to be true, never disregard or forget *any one* of them, however unimportant it may at the time appear. Should you perceive truths to be important, make them motives of action. Let them serve as springs to your conduct. If we *neglect to draw such inferences*, or to act in conformity with them, we fail in essential duties.'" Again, in remarking how Sir William excited his enthusiasm by the *beau-idéal* which he drew of the medical character, Mr. Abernethy observed: "I can not tell you how splendid and brilliant he made it appear; and then he cautioned us *never* to tarnish its lustre by any disingenuous conduct, or by any thing that bore even the *semblance* of dishonor." Abernethy then proceeding in a strain warm, yet apologetic (Sir William being present), at length concluded his public thanks to his venerable instructor by saying, "What I have now stated is a tribute due from me to him; and I pay it on the present occasion in the *hope* that the same precepts and motives may have the same effects on the junior part of my audience as they were accustomed, in general, to have on the pupils of Sir William Blizard."*

* Sir William was a good surgeon and an excellent man. He was born at Barnes, in Surrey, and practiced his profession until his death, which took place at the advanced age of ninety-three. One of his eyes was affected with cataract, which was removed by operation

Abernethy then proceeded to advocate similar lofty views of the nature and duties of our profession in the following manner: "That which most dignifies man is the cultivation of those qualities which most distinguish him from the brute creation. We should indeed seek truth for its importance, and act as the dictates of reason direct us. By exercising our minds in the attainment of medical knowledge, we may improve a science of great public utility. We have need of enthusiasm, or of some strong incentive, to induce us to spend our nights in study, and our days in the disgusting and health-destroying duties of the dissecting-room, or in that careful and distressing observation of human diseases and infirmities which can alone enable us to alleviate or remove them; some powerful inducement," he adds, "exclusive of fame or emolument (for unfortunately a man may attain a considerable share of reputation and *practice without being a real student of his profession*). I place before you the most animating incentive I know of—that is, the enviable power of being extensively useful to your fellow-creatures. You will be able to confer that which sick kings would fondly purchase with their diadems, which wealth can not command, nor state nor rank bestow—to alleviate or remove disease, the most insupportable of human afflictions, and thereby give health, the most invaluable of human blessings."

When Abernethy entered the London Hospital, he soon gave proofs that Sir William's lessons were not unfruitful. He was early employed to prepare the

when he was ninety-one. He was enthusiastically fond of his profession, and was chiefly remarkable for his zealous observance of its honorable practice, and his indifference to lucre. He died in 1835.

subjects for lecture. Anatomy is usually taught by combining three plans.

In one, the various structures, muscles, vessels, nerves, &c., are exposed by the removal of their covering and connecting tissues, and so displayed as to be clear and distinct. This is "dissecting for lecture;" and it is the duty of the lecturer to describe the connections and immediate uses of the parts so displayed.

The body is then laid on a clean table, covered with a white cloth, and every thing is ready. There is some difference in these matters in different hands; but attention to order and cleanliness goes a long way in facilitating anatomical pursuits. To many there may be much that is disagreeable in anatomy, but we are persuaded that a coarse and vulgar inattention to decency has often alone rendered it disgusting or repulsive.

The other plan is not materially different from the foregoing, excepting that it is generally done by the anatomical assistant—technically, the "demonstrator." The parts, having been somewhat exposed, are left, as much as is consistent with clearness, in their natural and *relative* positions; and vessels, nerves, muscles, &c., which had been for the most part described *separately* by the lecturer, are now "demonstrated" (as the phrase is) *together*. The relative positions of all parts are thus more specially impressed on the student. In these "demonstrations" there is the same attention to covering the body with a cloth, &c., as in the lecture.

Lastly, the pupil is required to make out the parts by dissecting them himself, with such occasional assistance as may be at first necessary, and which is given by the demonstrator, who attends in the room for that purpose.

Now these duties (the lecture only excepted) were early performed by Abernethy. We may safely infer from this that he was distinguished by his industry and zeal in the pursuit of knowledge, and that he began thus early to cultivate that power of communicating what he knew to others, in the exercise of which he ultimately acquired a success, a *curiosa felicitas*, in which he excelled all his contemporaries. That special qualifications were already discernible, we may infer from the post he occupied. This is usually filled by a pupil of the hospital to which the school belongs, whereas Mr. Abernethy was an apprentice of a surgeon of St. Bartholomew's. On the testimony of a contemporary and fellow-student, Mr. W. W. Cox, late of Wolverhampton, we learn that he began to individualize himself very early. That, at the London Hospital, "he was for the most part reserved, seldom associating with any of the other students, but sitting in some place or corner by himself, diligently intent on the business of the lecture." Sir William Blizard is known to have felt proud of him, and to have soon indulged in great expectations from his character and talents.

I have already observed that Abernethy had the advantage of attending also the Surgical Lectures of Mr. Pott at St. Bartholomew's. Mr. Pott was a gentleman, a scholar, and a good writer, and seems to have been a spirited and attractive lecturer. In an oration delivered by Sir William Blizard in 1815, it is said that "it was difficult to give an idea of the elegance of his language, the animation of his manner, or the perceptive force or effect of his truths and his doctrines," a character which is by no means inconsistent with Mr. Pott's more studied compositions.

Such opportunities were not lost on Abernethy. He soon became possessed of what was known in the ordinary business of anatomy and surgery. His diligence, too, had afforded him an opportunity of testing those powers of communicating what he knew, to which I have just alluded. As an apprentice of a surgeon of Bartholomew's, his views were directed in that hospital; and it was not long before the resignation of Mr. Pott, and the appointment of Sir Charles Blicke, who was assistant surgeon, to succeed him, opened to Abernethy an arena in which he might further mature that capacity for *teaching* his profession, which had been, as we learn from his own testimony, an early object of his ambition, and for which he had already begun to educate himself at the London Hospital.

CHAPTER V.

Terra salutiferas herbas eademque nocentes
Nutrit, et urticæ proxima sæpe rosa est.—Ovid.

A large London hospital (if we may be excused the Hibernianism, as Mr. Abernethy used to call it) is a large microcosm. There is little in human nature of which an observant eye may not here find types or realities. Hopes and fears, joys and sorrows, solace and suffering, are here strangely intermingled. General benevolence with special exceptions. There is no human good without its shadow of evil; even the benevolent must take care. Impatient sensibility is much nearer a heartless indifference than people generally imagine. The rose Charity must take care of the nettle Temper. The man who is chary or chafed

in yielding that sympathy which philosophy and feeling require, must beware lest he degenerate into a brute.

One of the brightest points in Abernethy's character was that, however he might sometimes forget the courtesy due to his private patients, he was never unkind to those whom charity had confided to his care. One morning, leaving home for the hospital when some one was desirous of detaining him, he said, "Private patients, if they do not like me, can go elsewhere; but the poor devils in the hospital I am bound to take care of."

But to the hospital. Here we find some that have had the best that this world can give—some who have known little but misery; the many no doubt lie between, but all come upon the same errand. Disease is a great leveler. There all flock, as to Addison's Mountain of Miseries, to get rid of their respective burdens, or to effect such exchanges as benevolence may have to offer, or the grave can alone supply. Our large hospitals have a most efficient material; the accommodations are extensive, the revenues princely. St. Bartholomew's, for example, has a revenue of between twenty and thirty thousand pounds a year, and is capable of receiving six hundred patients.

As regards what is mechanically or physically necessary to the comfort of the inmates, the ample appliances of our large hospitals leave little or nothing that can be desired. There is every facility, too, for the execution of the duties that convenient space and orderly arrangement can suggest; in short, every thing, in the general sense of the word, that money can procure. Then there are governors whose hearts are as

open as their purses, whose names are recorded in gold letters as the more recent or current contributors to the funds of the establishment, and who rejoice in the occasional Saturnalia of venison and turtle—all duties or customs which may be observed, with the gratifying reflection that they are taking the thorns out of the feet of the afflicted, provided only that they do not involve forgetfulness of other duties, the neglect of which may plant a few in their own. The governors determine the election of the medical men, to whom the welfare of the patients and the interests of science are to be intrusted.

We have said that money can not procure all things, and one of these is mind; a remark requiring some qualification certainly, but this we must refer to a subsequent chapter. Minds such as Abernethy's are not to be found every day; and, notwithstanding the sumptuous bill of fare we have already glanced at, there are many things in a large London hospital yet to be desired; things which, though it imply no great penetration to discover, may, for aught we know, require the public eye and the plastic hand of power to supply.

Abernethy was elected assistant surgeon of St. Bartholomew's Hospital on the 15th of July, 1787. Sir Charles Blicke, an assistant surgeon, had been appointed to the surgeoncy vacant by the resignation of Mr. Pott, and Abernethy succeeded to the assistant surgeoncy thus vacated. The election was contested by two or three other gentlemen; among the rest, by Mr. Heaviside. This gentleman was an eminent surgeon, and a gentlemanly, facetious, and agreeable companion. He was originally in the Guards, and practiced in London many years with great credit and respecta-

bility. He was fond of science, and expended considerable sums in the formation of an interesting museum. In the earlier part of his life he gave conversaziones, which were attended by great numbers both of the scientific and fashionable.

He lived in a day when, if a gentleman felt himself insulted, he had at least the satisfaction of being relieved from his sensibility, by having his brains blown out in a duel—professionally speaking, by a kind of "operative surgery," viz., the demolition of the organ in which the troublesome faculty resided. Mr. Heaviside, in his professional capacity, is said to have attended more duels than any other surgeon of his time. This gentleman, albeit not unused to one kind of contest, retired from that at the hospital, which then lay between Mr. Jones and Mr. Abernethy, the former polling twenty-nine, the latter fifty-three votes.

This was an important epoch in the life of Abernethy. It is difficult to adjust the influence which it ultimately exerted for good or evil on his future prospects and happiness, or on his relations to science. The hospital, by this step, secured a man of extraordinary talent, it is true, and in spite of a system which indefinitely narrows the field of choice; still, for no less a term than twenty-eight years, the "system" (which we shall by-and-by describe) kept Abernethy, as regards the hospital, in a position which, although it did not exclude him altogether from the field of observation it afforded, did much to restrict his cultivation of it. His talents for observation, however, and the estimation in which he was soon held, no doubt to a certain extent, enabled him, notwithstanding, to bring many of his views to the test of practice. Still,

as an assistant surgeon, except in the absence of his chief, he had officially nothing to do; whatever cases he conducted were only by sufferance of his senior.

This, for a man of his ability, was a false and miserably cramped position; one, in fact, much better calculated for detecting faults than for developing the best mode of correcting them. As assistant surgeon, he had no emolument from the hospital; he had, therefore, a very reasonable inducement to set about doing that for which he felt himself calculated, and to which he had early directed his attention—namely, to teach his profession. The event showed that he had by no means miscalculated his powers. These proved well-nigh unrivaled. The appointment to St. Bartholomew's, besides other advantages, gave him an opportunity of lecturing with the *prestige* usually afforded by connection with a large hospital. He did not, however, give lectures at the hospital at first, but delivered them in Bartholomew Close.

There was at this time, in fact, no school, properly so called, at St. Bartholomew's. Mr. Pott gave about twenty-four lectures, which, as short practical discourses, were first-rate for that period. But there were no other lectures, not even on anatomy, which are essentially the basis of a medical school.

Dr. Marshall, who was a very remarkable man, and no less eminent for his general ability than for his professional acquirements, at this time was giving anatomical lectures at his house in Bartlett's Buildings, Holborn. In a biographical notice of him in the "Gentleman's Magazine," in which we read that he was giving lectures about the year 1787, it is incidentally remarked that, "in all probability, he derived little sup-

port from St. Bartholomew's Hospital, for that recently an ingenious young gentleman, Mr. Abernethy, had begun to give lectures in that neighborhood."

Abernethy, who seems to have been always seeking information, certainly attended some of Marshall's lectures, because he would occasionally refer to anecdotes he had heard there. He had thus attended most of the best lecturers of his day—Sir William Blizard, Dr. Maclaurin, Mr. Pott, and Dr. Marshall. To the experience which he had thus acquired, and with the early intention of applying it, he added a remarkably natural capacity for communicating his ideas to others. We thus begin to see the means by which, as a lecturer, he attained so early, as we shall see he did, an excellence in that mode of instruction.

We allude to this feature in his education, because by-and-by it will, with other things, assist us in a rather difficult task: we mean that of analyzing the means by which he obtained such a power over his audience. He thus became a teacher at the age of twenty-three, at a large hospital where he was about to commence a school, of which he would be at first the sole support. This necessarily involved a fearful amount of labor for an organization active and energetic, but by no means of great physical power.

Labor, to be sure, is the stuff that life is made of; but then, in a fine organization like Abernethy's, it should be directed with economy of power, and in application to the highest purposes. Such an organization should, if possible, have been relieved from the drudgery which lies within the sphere of more ordinary capacity. Ready as we are, then, to congratulate the young philosopher, about to display his powers on

a field where he was so successful, still misgivings creep in which restrain, or at least moderate our enthusiasm. Unusual ability, no doubt, allows men to anticipate the order which, as the rule, Nature seems to have assigned to the pursuits of intellect. Still, we must not suffer ourselves to be blinded to the rule by the frequency of the exception. Youth is the time for *acquiring* knowledge; and although there is no reason why the fruits may not be imparted to others as fast as they are gathered, still, when the larger space of a man's time at twenty-three is devoted to *teaching* merely, it may be reasonably doubted whether it be such a disposition of it as is best calculated to economize his power, or develop the maximum of its influence in *extending* the science to which it is devoted.

John Hunter declined undertaking to teach anatomy at forty (1768), because it would have "*engaged his attention too much* to admit of that general attention to his profession, to forming habits and established modes of thinking, which he thought necessary." In Abernethy's after life we think we saw a good deal of the wear and tear that early and diversified labor had impressed on his physical organization. In advancing life, the natural desire for ease, if not carefully guarded, may not be without its perils; but precocious labor, stinted rest, and the malaria of large cities, crowded hospitals, and filthy dissecting-rooms, too certainly bring on a train of evils not less grave because more distant.

We mention these points now. We shall have to return to them when, in conclusion, we consider the variety and importance of his contributions to the science of his profession, and why they were not still more numerous. The latter, though sometimes the less grate-

ful, is not seldom the more useful portion of biographical analysis.

Commencing his lectures in Bartholomew Close, they soon seem to have attracted notice. His anatomical lectures, which were always on a similar plan, were very skillfully framed to interest and instruct the students. The arrangement of his matter was such, that the dry details of anatomy were lighted up by a description not only of the purposes served by the various parts, but by as much as could be conveniently included of the diseases or accidents to which they were subject, and this juxtaposition of the structure, function, and diseases naturally tended to impress the whole.

Diseases of more general site, and which did not, therefore, fall conveniently under discussion in describing any one part, were reserved for a separate course of lectures. It was in this course that he more fully developed those general principles on which his reputation more especially rests. Of his inimitable manner we shall speak hereafter.

He was one of the first who insisted on the great importance of Comparative Anatomy in studying the uses of the various parts of the human body. Were it not for the comparison of the relations of various parts in different animals, we should be continually the victims of hypotheses which the juxtaposition or other characters of organs in any *one* animal are constantly suggesting. Here necessity compels the observance of that rule in inductive philosophy which seeks not for the true relation of any one thing in *itself*, but from *universals*, from uses and applications which are common to *other* things. In one case nature makes that luminously clear which is only dimly shadowed forth in

another; and in seeing organs under every conceivable variety of circumstance, we learn to estimate at their full value characteristics which are common and inseparable from all—the only point whence we can securely deduce their real uses in the animal economy. Of this Abernethy early inculcated the advantages.

As it was impossible to combine any thing like a comprehensive study of a vast science in the same course with lectures on human Anatomy, he was accustomed, at the conclusion of the course, to devote a lecture or two to select illustrations of this very important subject. This he ultimately relinquished, the universal admission of the fact rendering it no longer necessary.

We shall have occasion, by-and-by, to record the circumstances under which one of the most important steps was taken for securing the interests of Comparative Anatomy in this country; arrangements in a great degree owing to the good sense and personal influence of Abernethy, and exemplifying in the admirable fitness of the individual* the penetrative perception of character which distinguished his early preceptor in Anatomy.

We have little doubt that we have now entered on the most laborious part of Abernethy's life, and that during this and some succeeding years his exertions were so great and continued, that he laid the foundation of those ailments which at a comparatively early period of life began to imbitter its enjoyment, and strewed the onward path with the elements of decay and suffering.

He lectured himself on anatomy, physiology, and

* Professor Owen.

pathology, besides surgery, subjects which are now usually divided between three or four teachers. There is abundant evidence that he was an attentive observer of what was going on in the hospital. He was assiduous in visiting most places where any information was to be obtained. We find him attending Mr. Hunter's lectures, and constantly meditating on what he heard there, thus seeking opportunities of making himself more and more familiar with those opinions, which in his view, on most of the points to *which* they related, *were* definite—cautiously deduced—not always clear, but, when understood, truthful.

He endeavored further to mature an accurate perception of Mr. Hunter's views by seeking private conferences with him, and Hunter kindly afforded him facilities for so doing. We have Abernethy's own acknowledgment of this, coupled with his regret that he could not more frequently avail himself of them. Indeed, when we consider that Abernethy lived at this time in St. Mary Axe, or in Mildred's Court in the Poultry, that he was lecturing on the sciences I have mentioned, that he was observant of cases at the hospital (a very timeful occupation), and consider the distance between these points and Mr. Hunter's residence in Leicester Square, or his school in Windmill Street, we see there could not be much time to spare. It was not, however, merely during the time at which he was delivering his lectures that he was thus actively employed. We have not unfrequently evidence that he was often at the hospital late in the day in the most leisure season in the year, when perhaps his senior had, during his absence in the summer, confided the patients to his care.

We used to get occasionally such passages as these in the lectures: "One summer evening as I was crossing the square of the hospital, a student came running to me," &c. Very significant of continued attention during the summer of leisure season, he not being, be it remembered, other than an assistant surgeon, and not, therefore, necessarily having duties at the hospital.

At this period it was a common practice with him to rise as early as four in the morning. He would sometimes go away into the country, that he might read more free from interruption. He also instituted various experiments, some of which we shall have shortly to notice for the philosophical spirit by which they were conducted. His visit to France must have been made about this time, when the celebrated Dessault was at the height of his reputation. His stay could not have been long, in all probability; but we have evidence showing how quickly he perceived, amid the success of Dessault, the more important defects of the hospital—the Hôtel Dieu—to which he was *chirurgien-en-chef*, and the influence exerted by them on his practice.

As we shall be obliged again to mention Dessault in connection with a material item in the catalogue of our obligations to Abernethy, we postpone for the present any further remarks on that distinguished French surgeon.

Abernethy now continued actively engaged in the study and teaching of his profession. The most remarkable circumstance at this time of his life, and for several years, was his peculiar diffidence—an unconquerable shyness, a difficulty in commanding at pleasure that self-possession which was necessary to open

his lecture. Every thing connected with his lectures is of importance to those who may be called to lecture, or to those who may desire to learn. No man has attained excellence more varied or attractive, yet many years elapsed before he had overcome the difficulty to which I have alluded.

An old student, who attended his lectures not earlier than 1795, told me that he recollected several occasions on which, before beginning the lecture, he had left the theatre for a time, to collect himself sufficiently to begin his discourse. On these occasions a tumult of applause seemed only to increase the difficulty. The lecture once commenced, I have no evidence of his having exhibited further embarrassment. He seems early to have attained that happy manner, which, though no doubt greatly aided by his peculiar, and, in some sense, dramatic talent, we shall by-and-by see reason to believe had been carefully cultivated by study and observation.

His lectures continued to attract a larger and larger class, so that it became difficult to find the required accommodation for them. The governors of the hospital, therefore, in 1790, determined on building a regular theatre within the hospital. It was finished in 1791, and Abernethy gave his October courses of anatomy, physiology, and surgery of that year in the new theatre. He had thus become the founder of the School of St. Batholomew's, which, for the approaches it made toward giving a more scientific phase to the practice of surgery, was certainly superior to any other.

In expressing this opinion, we except, of course, John Hunter's lectures, for the short time that they were contemporaneous with those of Mr. Abernethy;

John Hunter dying, as we have said, in 1793. As St. Bartholomew's Hospital was our own Alma Mater, we may perhaps speak with a fallible partiality, but we think not. We are far from being blind to the faults which Bartholomew's has, in common with other schools, and, we believe, regret, as much as any body can do, that the arrangements at our hospitals, excellent as in many respects they are, still should so defectively supply many of the requisitions which the interests of science demand. These defects we shall endeavor to point out in their proper place. We shall now leave the subject of Mr. Abernethy and his lectures, and begin to consider some of his earlier efforts at authorship, sketch the objects he had in view, and the mode of investigation.

CHAPTER VI.

All things are but altered, nothing dies,
And here or there the unbodied spirit flies.
DRYDEN.

THE most universal character impressed on all created things that sense allows us to recognize, or philosophical inquiry to demonstrate, is "change."

While nothing is more certain, few things pass less observed, or when first announced, more stagger conviction.

An old man sees the yew-tree of his boyish days apparently the same. Gilpin tells us eight hundred years is "no great age for an oak!"*

The cliff, though "beetling," seems to beetle still;

* "Forest Scenery."

mountains appear to be everlasting; yet, were seas and rivers to disclose even a small part of their mission, the Danube or the Volga might tell of millions of tons of soil carried from higher levels to the Black Sea and the Caspian. Animals, too, are mighty agents in recording the mutability of the matter of the universe. Cora lreefs, never spoken of in smaller terms than miles and fathoms, are the vast ocean structures of countless millions of animalcules, which serve, as it were, to link together the two great kingdoms of organic nature—the animal and vegetable creation. The microscopic geologist informs us of whole strata well-nigh entirely composed of the silicified skeletons of insects. Sir Charles Lyell further impresses on us the reality of continual change by referring (and, as it would appear, with increasing probability) even the stupendous changes deduced by geology to the agency of causes still in operation.

Animals, however, besides the curious structures which they combine to contribute, are individually undergoing constant change. Man is not only no exception, but he is a "glaring" example.

The whole human race are in hourly progress of mutation. In the midst of life we are in death, is a truth to which physiology yields its tribute of testimony. Every moment we are having the old particles of our bodies silently taken away, and new materials as silently laid down. Surrounding agencies, which during life are necessary to existence, the moment the breath leaves us, proceed to resolve the body into the elements into which it was composed. In all cases change many be regarded as the combined result of two forces—the force acting, and the body acted on—

that is to say, of certain external agents, and certain forces inherent in the thing changed.

Animals are no exceptions to this view, and diseases are among a multitude of other exemplifications of it; but, in order to distinguish these more clearly, it is desirable that we should be familiar with those more ordinary changes in the body which are constantly going on, and to some of these were Abernethy's early investigations directed.

In proceeding to give some account of his works, we must be necessarily more brief than a scientific analysis would require.

To do him full justice, it would be necessary to republish his writings with appropriate commentaries. We shall hope, however, to do enough to relieve his memory from some of the numerous misconceptions of his principles and opinions, and to endeavor to show his claims to the respect and gratitude of posterity.

In every thing Abernethy did we find evidence of the acuteness of his mind, and his general qualifications for philosophical research.

His lectures had gradually attracted an increasing number of students; and he seems, about 1791, to have been desirous of prefacing his lectures on Anatomy by discussing the general composition of animal matter.

The rapid advance of chemistry had given a great impetus to this kind of investigation. Abernethy was not only well up in the chemistry of the day, but also not unskilled in the manipulatory application of it; and he felt interested in the great diversity of substances that appeared to be made up of similar elements. Boyle has recorded a vast number of facts,

many of which would even now well repay the studying; and Fordyce was certainly one of our most philosophical physicians.

Boyle had grown vegetables in water and air only, and found they produced woody fibre. Fordyce found that gold fish placed under similar conditions not only lived, but grew. Abernethy's experiments had for their object to inquire how far organized bodies (animals and vegetables) were capable of deriving their various structures from similar simple elements.

He grew vegetables on flannel wetted from time to time with distilled water, and then analyzing them, compared the results with those of the analysis of vegetables grown in the ordinary manner.

Other curious experiments consisted in pouring concentrated acids on vegetable structures, with a view to dissolve any alkali or iron which they might contain, and then analyzing the vegetables so treated.

He now found in the burned vegetable, lime, iron, &c., which, had they been free to combine, should have been taken up by the acid to which he had subjected the vegetable before he analyzed it; but he found neither in the acid, while both were discovered in the vegetable.

He also inquired whether tadpoles and leeches would live when kept only in distilled water with the admission of air. For example, he placed twelve leeches in two gallons of distilled water. They weighed, in all, twelve scruples. In three months two had died, but the remaining ten weighed twelve scruples, showing that they had grown. He next inquired whether vegetables grown in air and distilled water would admit of further conversion into the structure of animals, and

for this purpose he fed rabbits on vegetables so reared. His rabbits appear to have eaten about six plates at a meal of young cabbages thus reared on flannel wetted with distilled water.

He also experimented on eggs both before and at the time of incubation.

He wished to ascertain the quantity of lime in the chicken and the egg respectively, and whether any of the lime was absorbed from the shell, which it appeared not to be.

It is curious to observe the time and labor he gave to these experiments; they evince a very perfect knowledge of the chemistry necessary; and the circumstances calculated to interfere with or obscure the conclusions from them are judiciously stated.

Many of his remarks exemplify the caution with which he reasoned, and they are interspersed with ingenious suggestions. In speaking of his experiments on leeches and tadpoles, many of which latter had become perfectly developed frogs, he says, "The experiments which I made on this plan (in vessels of distilled water covered with linen) were made in the summer, when to prevent vegetation was impossible; and, on the other hand, when the vessels were covered over, even leeches died. In the winter vegetation might cease, but then the torpid state of the animals would render the experiments inconclusive."

He reduced an equal number of eggs and chickens (at the time of incubation) to ashes, sometimes in crucibles, sometimes in retorts. On the ashes he poured some distilled water, and ascertained the salts (as lime, &c.) contained in them. In some experiments the quantity of these found in the ashes of the

chickens greatly exceeded that found in the ashes of the eggs. In other experiments the quantities were equal.

In some of his experiments, after using the best chemical tests for detecting iron, lime, salt, and then washing the residue with distilled water, he burned it in a crucible, and found more lime and iron; on which he makes the following remarks, which suggest what we apprehend, even at this time, is a very necessary caution:

"This circumstance proves to me that the substances found in the ashes of burned animal matter do not formally exist in the mass before its destruction, but are only new distributions of the same ultimate particles which, under their former mode of arrangement, made the animal substance, but which being driven, as under, by the repulsive power of fire, are left at liberty to form other modifications of matter."—Page 97. Just what happens in the formation of ammonia, when animal matter is burned, by the union of the nitrogen and hydrogen gases then set free.

He investigated also the question of how far the results of the decomposition of animal matter would be identical if the analyses were conducted by heat or by putrefactive decomposition. In this experiment he selected blood, and he found that blood which had been allowed to putrefy yielded a *much larger quantity* of iron and lime.

The whole of the experiments are very suggestive, full of thought, and of extensive views of the relations of organic with inorganic matter. He concludes by observing that he had undertaken these experiments for the reasons already assigned, and because he had

imbibed the idea that the *ultimate particles of matter were the same.*

He remarks that the progress of chemistry had not been applied, in every respect, to the best purpose; that men's views were becoming contracted by being directed to individual objects; and that they had ceased to contemplate the beautiful and extensive prospect of matter and its combinations; and he complains that even Fourcroi, Lavoisier, and Chaptal either avoid the subject, or do not sufficiently consider it. We must recollect this was said before Sir H. Davy had made his splendid discoveries. Abernethy, after observing that he hopes his experiments will induce others to investigate the subject, concludes thus:

"I know not any thought that, on contemplation, can so delight the mind with admiration of the simplicity and power evident in the operations of the Creator, as the consideration that, by different arrangement and motion of similar atoms, He has produced that variety of substances found in the world, and which are so conducive to the wants and gratification of the creatures who inhabit it."

SECTION I.

Mors sola fatetur
Quantula sint hominum corpuscula.—Juv.

Among a multitude of examples, which teach us how little we can infer the importance of any thing in nature from its size or other impression which it may convey to mere sense, we might adduce the wonderful little tubes, certain relations of which were the objects of this paper. Those constant mutations in animal bodies, which are every moment in progress, are in great

part due to a very curious order of vessels of such extreme minuteness and tenuity, that, being in the dead animal usually empty and transparent, they are very commonly invisible, and thus long eluded discovery. There is one situation, however, in which circumstances combine to expose them to observation. Transparent though they be, they are here rendered visible, first by being loaded with a milk-like fluid, and secondly by running along between the folds of a beautifully transparent membrane (the mesentery). This fluid they have just taken up from the digestive surfaces on which their mouths open, and they are now carrying it off to pour it into the blood-vessels, that it may be added to the general stock of the circulation.

In the situation above mentioned they were at length discovered about the commencement of the seventeenth century. Every thing destined to support the body with new material, as well as the old, which is to be taken away, must first be sucked up by the myriads of inconceivably minute mouths of these vessels, which, from their office, are called the *absorbents*. These absorbents may therefore be regarded as the sentinels of the body. They are very sensitive and excitable; but, beside this, they have in the course of their journey from the surfaces whence they bring their contents, and the blood-vessels to which they are carrying them, a number of *douaniers*, or custom-house officers (the glands or kernels, as they are popularly called), whereby, as we have every reason to believe, the fluids they are importing are subjected to rigid examination, and if found to be injurious, to some modification, tending to render them more fit for admission into the system.

If the contents are very irritating, these vigilant

guards—these kernels—become very painfully affected, and sometimes inflammation is set up, sufficient even to destroy the part, as if, faithful to their trust, they perished themselves rather than give entrance to any thing injurious to the body.

We should never advance, however, in our story, if we were to tell all the interesting peculiarities of these curious vessels.

When first discovered, and the office assigned to them could no longer be disputed, the general distribution of them was still doubted. As it was usual to render them visible by filling them with quicksilver, so, with a kind of reasoning which has too often characterized mere anatomical research, when they could not be made visible, it became the fashion to doubt their existence. Among other structures formerly, Bone was one in which people found a difficulty. How could such delicate vessels exist in such an apparently dense structure; but Mr. Abernethy who had always opposed mere eye-reasoning, used to observe, with equal simplicity and good sense, that, for his part, he could see no more difficulty in an absorbent taking up a particle of bone, than he would in comprehending how a vessel could lay it down, which nobody doubted. We now know that bone is not only supplied with all the vessels which characterize a living structure, but so liberally, that, in comparison with some other structures of the body, we regard it as a part of high organization.

Nevertheless, the extreme minuteness and transparency of these vessels conferred a great interest, in obtaining any magnified view of them, such as that afforded in larger animals. In the paper before us, which was published in the "Philosophical Transac-

tions" for 1793, Mr. Abernethy gives the account of his examination of the absorbents as a whole, and his object was to help to determine a question long agitated, whether the glands or kernels were composed of cells, or whether they were merely multiplied convolutions of vessels. He selected the absorbents from the situation to which I have already referred. He threw into the arteries which carry blood to nourish the gland a red solution containing wax, which of course became solid on cooling; and into the veins which return the blood from all parts a similar solution, only colored yellow. He filled the absorbents with quicksilver.

He found, in filling the absorbents, that wherever the quicksilver arrived at a gland, there was a hesitation—its course became retarded, and that this retardation was longest at those glands which were *nearest the source* whence the vessels had drawn their contents, viz., the alimentary canal; as if the surfaces over which the fluid had to pass were more multiplied where most *necessary*, or, recurring to our metaphor, as if the more strict *douanier* had been placed on the frontier. He says that he found that some of the absorbents went *over* the glands, while others *penetrated* these bodies; that he found that the melted wax which he had thrown into the vessels had formed round nodules of various sizes. He then extended his examination of these vessels to those of horses and other large animals, and the result of his investigation was, that it inclined him to the conclusion that the glands were not merely made of convolutions of vessels, but a really cellular structure.

The paper is very modestly put forth, and he concludes it by observing that he offers it merely for the

facts which it contains, and not as justifying any final conclusion; but, "as all our knowledge of the absorbents seems to have been acquired by fragments, I am anxious to add my mite to our general stock of information on the subject."

It may not be uninteresting to some unprofessional readers to know that the glands here alluded to are the organs which are so seriously diseased in those lamentable conditions, popularly expressed, I believe, by the term mesenteric disease, or disease of the mesentery.

SECTION II.

CURIOUS CASES PUBLISHED IN THE "PHILOSOPHICAL TRANSACTIONS," 1793.

"The Universal Cause
Acts to one end, but acts by various laws."—POPE.

However paradoxical it may appear, it is not the less true, that nothing more teachingly impresses the inquirer into nature with the *actual* presence of general laws than the *apparent* exceptions to them. Finite capacities, in dealing with the Infinite, must, of course, encounter multitudes of facts, the meaning of which they can not interpret—portions of the Divine government, as Butler has said, which they do not as yet understand.

In philosophical investigations they are properly regarded as facts which, in the present state of knowledge, can not be made to fall under any of our very limited generalizations.

At one period, departures from the ordinary structure or form in animals were simply regarded as unintelligible abstractions, and no more philosophical expression was given to them than "Lusus Naturæ"—

sports of nature. Progressing science, however, has thrown considerable light on such phenomena, and invested many of them with a new interest.

Physiologists have not arrived at the explanation of all such facts, but much has been done by comparative anatomy to show that many of them are merely arrests of development, and cases of interference with the ordinary law.

That, in fact, they show the mutual harmony and connection of the laws of nature to be such that the development of any one law implies the concurrence, so to speak, of some other, just as the successful incubation of an egg, or any other familiar fact, implies the presence of certain conditions. We can not boil a drop of water without the concurrence of various laws; we say it boils ordinarily at 212° of Fahrenheit; but how many conditions this involves!

Until understood, how few could have guessed that mechanical pressure could have so modified the degree of heat necessary as to exalt it to more than double or reduce it to less than half; and again, how few would have looked for the force which, under common circumstances, governed the point at which water was thus converted into steam in the pressure of the atmosphere; yet so mutually influential are these conditions—namely, heat and a certain pressure in modifying this change of form or matter—that some of Faraday's most interesting results in experimental chemistry (we allude to his reducing several gaseous bodies to the liquid form) were obtained by *abstracting* heat and increasing pressure.

It is of very great consequence to remember these interferences in regard to disease, because most dis-

cases may be regarded as examples. Regarded as "abstract wholes," they are necessarily unintelligible entities; but when looked at as natural processes obscured by interferences, they either at once become intelligible, or, at least, as open to investigation as any other facts are in natural philosophy.

When we investigate the laws of nature with a view to the development of the sublime objects of natural theology, the concurrence of the various conditions necessary to the most ordinary phenomenon inclose the most irresistible proofs from natural evidence of the Unity of the Creator.

Regarded in the light of facts which we may not be able to generalize, the cases here recorded by Abernethy are very interesting, although we much regret that both cases were bodies brought in for dissection, in times when the circumstances baffled, if they did not forbid, any inquiry into the histories of them. It is lamentable to think of the state of the law with respect to Anatomy at that time.

Any surgeon who was convicted of *mala praxis*, resulting from ignorance of Anatomy, was severely fined, perhaps ruined; and yet so entirely unprovided were the profession with any legitimate means of studying Anatomy, that they could only be obtained by a connivance at practices the most demoralizing and revolting.

Bodies were, in fact, chiefly obtained by the nightly maraudings of a set of men, who, uninfluenced alike by the repulsions of instinct or the terrors of law, made their living by the plunder of grave-yards.

Many a tale of horror, no doubt, might be told on this subject.

Graves were sometimes watched, and severe nightly conflicts took place with a deadly spirit, which it is not difficult to imagine. We believe all this has now passed away; there is no necessity now for such revolting horrors. The public began to *think* for themselves, the real remedy for abuses. But to our cases. Both were curious; the one was the body of a boy, who did not appear to have been imperfectly nourished, but in whom the alimentary canal was found to be less than one fourth of its natural length, and in which also the relative length of its two grand divisions was reversed; the smaller in diameter, being usually very much the longest, was so much the shorter as to be only half the length of the division of larger diameter.

The other case presented a no less curious departure from the usual plan than a reversed position of the heart, which, instead of being placed with its apex on the left side, was situated on the right. In the ordinary arrangement, there is a difference on the two sides of the body in the manner in which the large vessels are given off to supply the head and upper extremities. These existed, but were reversed; those usually found on the right being now on the left side, and *vice versâ*.

The heart, however, would not be thus prevented from pumping the blood to all parts as usual, but another very singular arrangement was found in relation to the liver. To the unprofessional reader we should observe, that usually, while all parts are made, or secreted, as we term it, from the purer or arterial blood, in the human body the Bile is secreted from a vein which enters the liver for that purpose.

Now, in the case before us, this great vein never entered the liver at all, so that in this instance the

Bile was separated, like other animal fluids, by the arteries; in this case, the arteries going to the liver being larger than usual.

Mr. Abernethy examined the bile by submitting it to various tests, and, comparing the results with those obtained from ordinary bile, found them to be the same. His remarks are, as usual, ingenious and to the point, and very characteristic of the penetrative perception with which he seized on the proximate and practical relations of facts. "When we see the unusual circumstance," says he, "of secretion taking place from a vein,* we are apt to conclude that the properties of such a secretion require that it should be made from venous blood. But in this case we see that bile could be prepared from arterial blood; and we are led, therefore, so far to modify our conclusion as to infer, not that venous blood is *necessary* but that it can be made to answer the purpose."

We must not omit that these remarks are supported by comparative anatomy. As we descend in the scale of creation from the more complicated organizations to those which are more simple in their structure or their relations, the arrangement which I have stated as usual in man no longer obtains, but the bile is secreted from the arteries as the other fluids of the animal, showing, in fact, that the inference drawn by Abernethy was the legitimate conclusion.

Since the discovery of this case, one or two others have been observed; and the opinions of several eminent men in relation to the bearing such cases have on the ordinary sources of bile, are described in Mr. Kiernan's interesting paper on the Anatomy and Physiology

* The ordinary plan in respect to bile in the *human* body.

of the Liver, in the "Philosophical Transactions." It is very interesting, particularly to a professional reader, to peruse that discussion, in order to estimate Mr. Abernethy's comparatively simple, ready, and, as it would seem, correct view of the subject.

One other thing we learn from these cases—the extreme importance of examining bodies while their histories and symptoms can be recorded. It might have been highly useful to science had the histories of these cases been known; and the circumstance should be mentioned as, in some measure, tending to counterbalance in the public that not unnatural but (as regards their real interest) not less to be lamented aversion to the inspection of the dead—a branch only, it is true, but a very important one of physiological inquiry. It is the only means by which we can have the comfort of knowing that, however unable we may have been to arrest disease, we were at least right in the seat we had assigned to it; but it is infinitely more valuable in disclosing to us affections of organs which *had given no sign*, and in thus impressing on us the necessity of taking a wider range in our investigations, and comprehending in them all those injurious influences which have, at various periods, acted on the body, for we thus obtain an insight into the nature of disease which no mere symptoms can ever afford us.

The repulsions which the public have to overcome are admitted; but let us not, in common justice, forget those sacrifices of time, labor, and too often of health also, which are made by the profession. Nor is it immaterial to mention that it is a service for which they seldom receive any remuneration, the usual incentive being one which, if it excite no sympathy, is at least

entitled to our respect, namely, the desire to improve their knowledge of their profession. There is no doubt of the deep and common interest which the public and the profession have in this question, and it is from that conviction that I have ventured on these few remarks. Abernethy, when he introduced any subject in his lectures, was accustomed to say at once all that he intended to remark on it. I beg, in the foregoing observations, to follow his example, which I trust the reader will accept as an apology for the digression.

CHAPTER VII.

L'art (de délicatesse) consiste à ne pas tout dire sur certains sujets, à glisser dessus plutôt que d'y appuyer; en un mot, à en laisser penser aux autres plutôt que l'on n'en dit.—Bouhours.

One of the most beautiful poems in the English language, perhaps, is Armstrong's "Art of Health." Whether it be that the title is uninviting, or from some other cause, I know not, but it is very little read; but scarcely any one who has read it has done so without pleasure. Besides containing many admirable and valuable instructions, it shows how an ordinary, and, to many, even a repulsive subject can be treated with such discretion, taste, and even elegance, as to render it pleasing and attractive.

Such a writer could have conveyed, even in prose, explanations of disease, so as to interest and instruct his readers. With no such power, we are almost inclined to regret the impossibility of doing Abernethy justice without saying something of nearly all his works. If, however, in so doing, we make one more

step toward familiarizing the public with matters which affect their best interests, we shall not regret any labor which this, the most difficult part of our task, may have required.

We usually connect pain with disease, and in our haste are prone to imagine that pain is not only the worst feature, but the only sign of it. "I am very well, I am in no pain whatever," is a common expression, and yet a person may be irremediably stricken without suffering any pain. Pain is, in fact, often the best possible monitor, and has saved many thousands of lives by the necessity it has imposed of observing what is the best of all remedies in a large class of cases. Among hundreds of examples, we may cite various affections of joints, wherein pain alone has sometimes secured that which surgeons were a long time before they had learned the full advantage of, and which, when they had been taught it by Abernethy, they have often failed with all their endeavors to accomplish, and which, singly considered, is of more consequence than any other remedy—we mean "*absolute repose.*" There are plenty of diseases marked by little or no pain, or which, at all events, are not painful, but they are among the most fatal and insidious of human maladies. Let us, for the sake of registering one among the numerous improvements we owe to the genius of Abernethy, mention one of them.

We have too many of us, I dare say, observed something like the following on the assembling of a family of a morning; the usual greetings interchanged, and that cheerful meal, breakfast, fairly begun, our attention has been directed to some fine, comely, perhaps beautiful girl, who, to the hilarious spirits of her laugh-

ing sisters, has contributed a somewhat languid smile We may, perhaps, have remarked that she is a little more spoken to by her mother than any other of the family circle; we may, too, have observed a tone compounded of confidence and gentleness, somewhat different from that addressed to her sisters. Still, though less hilarious than the rest, she has chatted away with considerable cheerfulness. But she has a languor in her manner, which, but for the surrounding contrast, might not have occurred to us. On rising from the breakfast-table, we observe that her gait is peculiar. She is not lame, but her step has something between firmness and faltering, that seems to indicate more effort or less power.

Poor girl! she is about to have, if she have it not already, a stealthy and hitherto almost painless disease; a stealthy, because it is so far a comparatively painless malady. Deep in the loins there has been the smouldering fire of disease, which is to result in what is called "Lumbar abscess." This grievous malady, which in many instances begins not less insidiously than I have mentioned, is found, on inquiry, not to have been *wholly* without some of those premonitory signs with which the beneficent laws of the animal economy almost invariably precede even the most insidious malady. Inquiry generally elicits that, however little complained of, there has been at times more or less of uneasiness or pain felt in the loins; that it has not been so much lately, but that it has become less in force or frequency since the appearance of some swelling, which may be in the loins, or some other part lower or more or less distant.

It is a malady very commonly connected with dis-

eased spine, but frequently without any such complication; and it is curious that Mr. Abernethy at first met with as many as, I think, eight cases in succession which were not complicated with any disease of the spine. Under any circumstances, it is a serious malady, and usually, when the collection bursts or is opened, severe constitutional symptoms supervene, which, though not without exceptions, gradually usher in what Armstrong calls

"The slow minings of the hectic fire,"

and destroy the patient.

Now Mr. Abernethy's plan was intended to prevent this last and dreaded issue. The chief points of excellence in his recommendations are, first, the emphatic recognition of the constitutional origin and nature of the malady; secondly, the consequent necessity of a greater attention to the general health of the patient; and, lastly, if it could not be dispersed, to relieve the interior of its contents, so that its extensive surface should never be exposed.

The mode of proceeding was extremely simple, and there is no doubt that a great many lives have been saved by the practice thus recommended. But I have heard that some surgeons think the merits of the plan overrated, which I can only suppose explicable on the ground that the plan has been imperfectly followed; and I am the more disposed to this view, because nothing can be more entirely opposed to Mr. Abernethy's views and intentions than the treatment of many cases said to have been treated after Mr. Abernethy's plan.

As a considerable number of families have really a painful interest in this question, I will, at the risk of being a little professional, state what has occurred to

me on the subject, in explanation of the apparent discrepancy. My own experience obliges me to coincide with those authorities on this subject who, approving Mr. Abernethy's practice, adopted it. Among a host of eminent men, I will mention only two, Sir Astley Cooper, and a scarcely less eminent authority, Mr. Samuel Cooper, the laborious and distinguished author of the "Surgical Dictionary," who observes that Mr. Abernethy's plan deserves "infinite praise." Sir Astley Cooper, too, in speaking of a very dangerous period of the case, to which Mr. Abernethy's plan has an important relation, says, "We should adopt the plan suggested by Mr. Abernethy, as it is the best ever invented by any surgeon." The apparent discrepancy in the results of experience of different surgeons is a matter of degree, and admits of easy explanation.

The feature whence the disease derives its name is merely a partial exposition of an exceedingly deranged state of the whole economy, not unfrequently complicated with organic disease. Although Mr. Abernethy's cases show that even these cases are not necessarily fatal, still, in general, such will, sooner or later, terminate unfavorably under any treatment; but in many others, the explanation which I first suggested is a satisfactory solution of the failure. In some, the local relief has been by no means conducted with the observance of those conditions which Mr. Abernethy has enjoined; in others, there has not been any reasonable approximation to that careful attention to the general health which is the necessary basis of the plan.

Another point which has, in some cases, impeded the adoption of the practice, is the increased responsibility it seems to involve. If a surgeon is to be mistrusted,

and charged with either, the "laisser mourir" is less injurious to him than the "tuer." What we mean is this: Every thing sometimes is going on well until the opening of the deposited fluid. If it be left to open by the ordinary processes of nature, the subsequent symptoms are ascribed to the usual course of the disease; but if the surgeon has interfered, and, from any circumstance whatever, the opening does not heal, or bursts soon after from some slight accident (which has now and then happened), the surgeon is blamed. The only remedy for this is to impress the necessary caution—repose of the part, and so forth.

There is, however, a third point of great practical consequence on which Mr. Abernethy has been misunderstood—I allude to the local condition under which the puncture should be made. When, notwithstanding our persevering observance of all measures calculated to repress the diseased actions, or to procure the absorption of the deposited fluid, we perceive it to be increasing or approaching the surface, *then, before any inflammation* of the skin has taken place, it should be discharged.

In many cases, *this* opening has been delayed until the skin has become inflamed or much attenuated. Now this risks the accomplishment of an object which it is a material point with Mr. Abernethy to secure, namely, the *immediate healing* of the puncture.

On this point, even so good an authority as Sir Astley Cooper has given a misdirection. "Let the abscess proceed," says Sir Astley, "until you observe a blush or redness on the skin, and then adopt Mr. Abernethy's plan." Now this direction does not absolutely prohibit the opening of the cyst with the object which

Mr. Abernethy had in view, but, as before stated, it deprives us of one desirable condition. To settle this point, we quote Mr. Abernethy's own words. In discussing the point of time at which the opening should be made, he asks, "Are we to wait until evident *signs of inflammation* appear? I think not." Accordingly, in a case where the surface had become red, we find he took care to avoid opening it *at that part*, because it risked the security of at once healing the puncture.

The truth is, that the *whole* of the plan is most valuable, but it must be carefully followed in its integrity; and that this may be done, the principles on which it is founded must be constantly kept in view. These are: the improvement of the general health with the view of arresting the action of disease and producing the absorption of the morbid secretion; this failing, to puncture the abscess, so as to secure the evacuation of its contents without the admission of air, and on conditions calculated to *insure* the healing of the wound; then to favor the approximation of the sides of the cavity by relieving it of its contents, by puncturing it anew before it shall have become so much distended.

Another misapprehension has arisen with regard to Mr. Abernethy's object in excluding air, and unnecessary pains have been taken to show that the presence of air is not injurious to living surfaces. It was not from any apprehension of this kind that he was anxious to exclude the air, but from the tendency that the presence of air had to favor the putrefactive decomposition of the new secretion. We must not omit to mention the origin of this beautiful paper, as it is highly characteristic of Abernethy's acuteness of ob-

servation, and his promptitude in the practical application of it.

A lumbar abscess had been opened by caustic, and when the eschar partially separated, the cyst was partly emptied; the sides of the cavity collapsing on the imperfectly separated eschar, the opening was closed, and none of the usual constitutional disturbance followed. When, however, the eschar, finally separating, exposed the cyst, within twelve hours the usually dreaded disturbance of the system supervened. Abernethy took the hint thus disclosed to him, and produced the improvement, the merits of which we have endeavored to give a brief representation.

CHAPTER VIII.

HIS ESSAY ON THE SKIN AND LUNGS.

"It is madness and a contradiction to expect that things which were never yet performed should be effected, except by means hitherto untried."—BACON, Nov. ORG., Aph. 6.

THIS simple and instructive aphorism, when we consider the object of the distinguished author in the immortal work whence it is taken, is highly suggestive to those who are aware of the present state of medicine and surgery, and who desire to see them become a definite science. Nor does it appear inappropriate to the consideration of Abernethy's experimental inquiries into the functions of the skin and lungs. An *extended* investigation, of which this paper contains an excellent type, and is, in part, a practical application, would be a great step toward the creation of a real science, and would certainly fall within the "means untried" of Lord Bacon.

Although the latter part of the last century, and the first half of the present, have been very remarkable for the number of distinguished men who have flourished during that period, in almost every branch of knowledge, yet neither the bar nor the senate, neither literature nor any of the sciences, can boast of greater men, nor lay claim to more positive improvement than Chemistry.

If we only consider that interval between the discovery of oxygen by Priestley in 1774, and the conclusion of Sir Humphrey Davy's labors, Chemistry almost seems like a new science; and it continues to advance with such rapidity, and is daily opening out so many new questions, that the most accomplished chemist of one year is never sure how much he may have to learn the next, nor, unless he reasons with great caution, how much he may have to *un*learn.

To a physiologist who requires assistance *from all branches of science*, Chemistry must always be an interesting study. When we lay aside all speculations as to what is the abstract nature of Life, and study that which is the proper object of philosophy—that to which it seems the faculties of man are limited—namely, the *laws* in obedience to which the phenomena in nature occur, and apply the knowledge thus obtained to the occurrences which take place in the human body, we soon discover that, whatever the abstraction "Life" may be, we live proximately in virtue of certain changes in various forms of matter, as food, air, the various constituents of our bodies, &c, and that these consist of multiplied separations and re-arrangements of their respective elements, which it is the special province of Chemistry to examine.

If we investigate the changes of the living or the structure of the dead with these objects, we shall be in no danger of abusing Chemistry to purposes to which it is inapplicable. When, however, we proceed a step further, and seek to give a *chemical expression* to various uses and relations of different parts of the body, the greatest caution is required.

In the first place, in a machinery which is a practical application of a great many sciences, it is to the last degree improbable that they can be expressed by any one.

Again, to estimate the true meaning—the physiological interpretation of many changes, which might be in their proximate sense chemical—a greater familiarity with the phenomena of *disease* is necessary than usually falls within the inquiries of the most scientific chemist.

To a person acquainted only with the ordinary phenomena of health, Chemistry is forever suggesting tempting analogies, which are constantly tending to mislead him to conclusions on insufficient data, and to examine and rest too much on the *chemical* facts deducible from one or other function, without sufficiently attending to the *physiological* relations of that function with all others.

In fact, for want of due caution, or, it may be, of a sufficient range of information, the assistance which Chemistry has hitherto rendered to Physiology has been attended with so many assumptions, that it is extremely difficult to say on which side the balance lies—of advantage or error. We are aware that at this moment there is a contrary feeling—a kind of *furore* for chemical solution of physiological phenom-

ena. We believe the caution we venture on suggesting was never more necessary.

The discovery of oxygen gas by Priestley not only gave a great impetus to chemical inquiries, but affected Physiology in a very remarkable manner; when it was found that the *more obvious* phenomena of all cases of ordinary burning, lamps, candles, and fires of every kind, consisted of the chemical union of charcoal and oxygen (carbonic acid), and again, when it was discovered that animals in breathing somehow or other produced a similar change, one may conceive how ready every one was to cry, "I have found it! The heat of animals is nothing more than combustion! We inhale oxygen; we breathe out carbonic acid; the thing is plain. This is *the* cause of animal heat!"

It has always struck us as a curious thing that chemists should have attached such a dominant influence in the production of heat in animals to the union of carbon and oxygen, because nobody is necessarily so familiar as they are with the fact that the evolution of heat is not at all peculiar to the union of these bodies, but is a circumstance common to all changes of every kind, in all forms of matter, there always being either the absorption or the evolution of heat.

There is no doubt that the analogy is very striking between the changes which *appear* to be wrought in respiration and those which take place in ordinary combustion. A very little consideration shows that the idea that respiration is the cause of animal heat, or that it is due to any other change of oxygen, is not only an assumption, but in the highest degree doubtful. In the first place, the carbonic acid thrown out when we expire is certainly *not* made by the imme-

diate union of oxygen with charcoal expired; secondly, nothing is so clear that in respiration there is an immense quantity of heat *thrown out* of the body. But as it is very desirable that the subject of this paper of Abernethy's on the Skin and Lungs should be understood, we will give the reader a simple view of the nature of these important organs; and as one (functionally considered) is as much a breathing organ as the other, we will say a few words first of the lungs.

In all animals, the blood, or other fluid in which the elements of nutrition are sent to all parts, is exposed to the action of the air, and this is what we call breathing or respiration; and the exposing of the blood to air is so arranged that both fluids are in *more or less* rapid motion. The staple constituents of the air, so to speak, are about one fifth oxygen and four fifths nitrogen gases, with about two parts perhaps in a thousand of carbonic acid; and although, as we too well know, the air is occasionally polluted by many *additions*, yet, whether we take air from the top of Mont Blanc or a cellar in London, the *staple* principles of oxygen and nitrogen have their proportions unchanged. The air breathed by animals who live in the water is somewhat differently constituted; the proportion of oxygen is considerably greater, probably about as much as one third, or thirty-two parts in one hundred; so that fish breathe a more *highly oxygenated* air than we do.

Now it is found that when we inhale the air of the atmosphere (that is to say, one fifth oxygen and four fifths nitrogen), we expire some oxygen, some carbonic acid, and some nitrogen also; and to ascertain the actual changes *which* took place was the object of Abernethy's inquiry.

The subject is one of great interest to the public, and, in justice to Abernethy, we should remark that this essay was written more than half a century ago—1793.

Thousands die every year of affections of the lungs; and many diseases of these organs, if not in their nature incurable, have too generally, in practice, proved to be so. There are not wanting, however, many persons who ascribe these mournful results, not so much to the abstract difficulty of the case, as to imperfect and erroneous views of the functious and relations of these important organs, and who entertain the opinion that the investigation of the subject has been either from preconceived notions, from a too limited view of the phenomena, or from some other cause, so infelicitously conducted, that the conclusions arrived at have been either merely assumptions, extremely doubtful, or absolutely erroneous.

It is sufficiently obvious, that if we are ignorant of the use of any part of a machine, it must be the most unlikely thing in the world that we should know how to set about repairing it when it is out of order, and the matter must be still worse if we should happen to ascribe a use to it which is different or contrary to that which it really fulfills. So, in an animal, if we are ignorant of the use and relations of any organ, it is very improbable that we can understand the nature of its disorders, or treat them in any case successfully, except by the merest accident, which, though it may waken us up to a sense of our ignorance, leaves us so blind to the causes of our success that we have no power of repeating it.

Now this is pretty much the actual state of affairs

in respect to diseases of the lungs. No investigation of any organ is worth any thing, unless it include its relations with other organs in the same machine.

What should we ever learn by looking at the main-spring of a watch apart from the general machinery to which it belongs? Though we should look forever, and employ a microscope to boot, it is clear we should never arrive at the perception of its true relations.

Abernethy's inquiry derived great interest from the investigation of the skin by which it was preceded, and which seems to have formed his primary object. A few words on this wonderful organ may help the unprofessional reader to form some estimate of its relations and importance. As in all animals it is the surface in immediate contact with external influences—the first which attracts our notice—so it is of all others the first which presents to us the evidence of design and adaptation. We tell the climate an animal inhabits with moderate certainty by looking at the skin; and if we occasionally meet with apparent exceptions, further examination usually shows that they exemplify the more strikingly the unity of plan. Thus we may find animals who inhabit *hot* regions furnished with a somewhat warm covering of the skin, as the tiger, for example; but when we examine the eye, and inquire into the habits of the animal, we find that he preys or feeds at night, when the atmosphere is charged with damp and cold.

We know that the animals whence we obtain our furs inhabit cold regions. The changes in the same animal are not less instructive. Animals placed in certain circumstances, in which they require greater warmth, have increase of covering, and *vice versâ*.

Again, the tendency to become white, in those inhabiting cold regions, is a very interesting adaptation, although I am not aware that it has been satisfactorily explained. Two things, however, are certain, that they are placed in different circumstances as regards the relation to heat, and would reflect great quantity of light, which, in its intensity in snowy regions, might be prejudicial, as there is no doubt of the influence of this principle in animals. Again, it is a very common arrangement that animals should take the color of the ground they occupy; and this is sometimes very curiously exemplified. I have observed in the common hunting-spiders, which inhabit some palings in a garden in the country, that they are of different shades, but they all more or less resemble that part of the old paling on which they are found. Those which we see on the ground are generally of some darker color. Birds exemplify in a very remarkable manner the adaptation of their external coverings to the requisitions which their habits establish. All animals may be said to be surrounded by an atmosphere of their own, and they are not, therefore, strictly speaking, in contact with the atmosphere; but when they are exposed to air in motion, this stratum is blown aside, and the atmosphere is brought in contact with the surface. Its refrigerating influence is now felt; and just as a boy cools his broth by blowing on it, a fresh stratum of cold air is constantly brought to the surface.

This is variously met in different animals; in the healthy human subject, by increased activity of the vessels of the skin, which induces greater heat. Birds, in their rapid flight, and especially in the more elevated

regions of the atmosphere, are exposed to intensely refrigerating influences. These are met by the surface being clothed first by fine feathers, the worst of all conductors of heat, and these are overlapped where they meet the atmosphere in such a way that the bad conducting property of the feathers is increased by the mechanical arrangement of them. Again, the respiration of birds, which, as we contend, is a refrigerating process, is very restricted, although, for want of due consideration of all the circumstances, and especially of certain analogies afforded by insects, very opposite views have been entertained. Domestic animals (birds inclusive) impressively suggest the refined adaptation of color even, of the whole surface, to the altered position of the individual. Nothing is more striking than the general uniformity of color in wild animals, few things more familiar than their infinitely varied hues when domesticated. Now it is certain that these differences have a meaning, and that their relations are important; but when we extend these thoughts from the coverings of animals to the consideration of surface whether of animals or vegetables, what wonderful things occur to us. Every variety of coloring which we observe in domestic animals, every spot on an insect's wing, every pencilling on a flower, places the individual in a different relation, so far, to light, heat, and other powerful agents in nature.

Or, if we look from another point of view, we can not walk by a hedgerow in summer without observing how very small the differences of light and aspect are, which seem, on the same soil, to confer on the same species of flowers such numerous varieties of color. I have most frequently observed this in the common crane's-bill, or wild geranium.

In order to estimate correctly the value of these surfaces to the animal or vegetable, it is obviously of great importance to us to know what they do, and, if they give off any thing, to ascertain its nature. That either animal or vegetable may be healthy, the processes of nature, whatever they are, must be carried on; and we may be assured that the fragrance of the rose is just as necessary an exhalation *from* the plant, as it is an agreeable impression *to* us.

But all animals may be said to breathe quite as much by their skin as by their lungs. Leaves, too, are the breathing surfaces of vegetables; and therefore, to ascertain the facts in the one without inquiring into those observable in the other, would be likely to fog our reasoning and falsify our conclusions. The first impression we obtain from all animals is from external form and appearance—from, in fact, its outward covering. It was the first organ to which Abernethy devoted his most particular attention, and here again his investigations show how little those knew of his mind who imagined that his thoughts were restricted to any one set of organs.

In whatever light we view it, the skin is, in all animals, a most important organ, and so much so as drolly enough, with the exception of the human subject, to have been long popularly familiar. Yet so imperfect have been the investigations of its functions, that we are at this moment chiefly indebted to the early experiments of Abernethy for what we know that is positive on the subject. The original experiments of Sanctorius were quantitative, and, as general truths, of sufficient importance to have excited more attention. Cruikshank's were highly acceptable, but they were

less numerous and less varied than those of Abernethy, while the labors of Edwards, though exhibiting great industry and zeal, were by no means so conclusive as those of Abernethy. Edwards's experiments served to strengthen and confirm, by the analogy afforded by other animals, conclusions drawn by Abernethy from the more secure premises furnished by the *observation* of corresponding functions in man.

Mr. Abernethy's inquiry was first directed to ascertain what the skin actually gave off from the body, and, secondly, what changes took place in the air which we draw into the lungs (inspiration). We will endeavor to give some idea of these experiments. They were very simple—they involved no cruelty like those of Edwards—and they were many of them such as the public might repeat without difficulty.

Very useful would it be if persons who have leisure would sometimes engage in physiological inquiries. They would find them to be extremely interesting, and a series of facts would be easily collected, from which the physiologist might obtain the most valuable information, but which, engaged as most of them are in applying physiology to the correction of disordered functions, they can seldom collect for themselves, except in a few hours stolen from those occupied in an arduous profession, and perhaps by the sacrifice of paramount duties.

Mr. Abernethy's experiments were very numerous, and commenced in the summer of 1791; but the winter's cold obliging him to desist, they were renewed in the spring of 1792. Having referred to the experiments of Ingenhous and Cruikshank, together with an

allusion to a paper (not then made public) by Lavoisier, he proceeds to describe his own.

Having a trough containing a large quantity of quicksilver, he filled a glass jar (sufficiently capacious to contain his hand and wrist) with that metal. He inverted it into the trough in the usual way of proceeding in collecting gases. He fixed the glass jar in a sloping position, that he might introduce his hand the more readily beneath the quicksilver. In this way, whatever was given off from the skin of the hand, rising through the quicksilver to the top of the glass, and of course displacing a proportionate quantity of quicksilver, could be made the subject of analysis.

He describes his first experiment as follows: "I held my hand ten minutes in the jar beneath the surface of the quicksilver, and frequently moved it in that situation, in order to detach any atmospheric air that might accidentally adhere to it, and afterward introduced it into the inverted jar. The quicksilver soon acquired a degree of warmth which rendered it not unpleasant. Minute air-bubbles ascended to the top of the quicksilver more speedily in the beginning of the experiment, more tardily toward the conclusion. After an hour had elapsed I withdrew my hand; the bubbles of air which now appeared on the top of the quicksilver were, I suppose, in bulk equal to one scruple of water.

"In *sixteen hours* I collected a half-ounce measure of air, which makes fifteen grains the averaged product of an hour. No kind of moisture appeared on the surface of the quicksilver. Some sucking-paper was put up, which was withdrawn unmoistened. My hand was always damp when taken out of the quicksilver.

Whatever aqueous perspiration was produced adhered to its surface, while the aëriform ascended to the top of the jar. To the air I had thus collected I threw up lime-water,* when about two thirds of it were rapidly absorbed; to the remainder I added a bubble of nitrous gas,† but could not discover any red fumes, nor any diminution of the quantity. I repeated this experiment six times with similar, though not uniform results. I believe it will be found that the air perspired consists of carbonic gas, or fixed air, a little more than two thirds; of nitrogenous gas, a little less than one third. In one experiment the nitrogen made only one fourth part of the air collected; in another I thought it exceeded one third."

He then made a series of experiments of the same kind, but substituting water for the quicksilver, sometimes heating himself previously by exercise. The results of these were not materially different from those in which he held his hand in quicksilver, but they are less clear, because the carbonic acid gas given off seemed absorbed by the water. In the next series of experiments he held his hand and arm in atmospheric air. In this case he found that, in addition to the giving off of carbonic acid, a portion of the oxygen of the air became absorbed. This is exactly what happens in the lungs. Now, as the carbonic acid, when given off, is in both cases accompanied by the disappearance of oxygen, and as carbonic acid is composed of oxygen and carbon, it had been usually conceived that the oxygen taken in contributed to form the carbonic acid given off, and the idea is still entertained very generally.

* The test for carbonic acid.

† A test for the presence of oxygen.

The experiments of Abernethy, however, presently to be adverted to, in regard to the skin, and those of Edwards long after, in regard to the lungs, satisfactorily prove, we think, that the carbonic acid is not at all derived in the manner supposed.*

To test this matter, Mr. Abernethy confined his hand and arm in various gases containing *no oxygen*, as hydrogen, and then in nitrogen, but he found the carbonic acid gas still given off as before. He then placed his hand in a gas *containing* oxygen (nitrous oxide), and lastly in oxygen itself, to see if it *increased* or otherwise affected the elimination of carbonic acid, but in neither of those experiments was the carbonic acid thrown off *increased*, or in any way affected by it.

In a subsequent part of the paper, he remarks on the idea that physiologists entertained of the carbonic acid given off by the lungs being made by the oxygen inspired; but he says very justly that the quantity of oxygen is too small for the formation of so much carbonic acid gas as we find given out by those bodies, and that his experiments on the skin clearly prove that the exhaling vessels of the skin emit carbonic acid in a state of complete formation, and then adds, what it is difficult to estimate the merits of, without recollecting that it was said half a century ago (and before the experiments of Edwards), and, "doubtless, those of the lungs perform a similar office."

This is one of those bold, and, we believe, successful reasonings from analogy which were very character-

* It is in this paper that he uses the significant expression "ventilating the blood," which looks as if the refrigerating effect of respiration—and which we have endeavored to show is the real purpose of it—had not wholly escaped his notice.

istic of Abernethy. The truth is, that even the experiments of Edwards, some of which some years ago we repeated ourselves with the same results, are not, I conceive, so conclusive as the analogy of Abernethy. It is true they consisted of placing frogs and other animals in gases not containing oxygen, when it was found notwithstanding that there was *no* difference in the carbonic acid produced, and which therefore could not have been compounded of any oxygen in the gas. But even here many possible sources of fallacy suggest themselves. The previous expulsion *of all* the oxygen from the animal is obviously a matter of uncertainty. These are, besides, those sources of fallacy which are inseparable in some form or other from all experiments on animals which disturb their natural habits, especially when these disturbances are so great as to amount to suffering. From all such experiments Abernethy *instinctively* shrunk. His repulsion to them seems not to have rendered it necessary to him to have shown that they were as physiologically inconclusive as they are morally questionable. At all events, his present experiments were not obscured by any such source of fallacy.

Still, the idea of the carbonic acid exhaled by the lungs being made up of the union of the carbon exhaled with the oxygen taken in, continue to be very extensively entertained. We can only say that to us it seems entirely a child of the imagination—what Horace calls

"Mentis gratissimus error,"

and shows not only how few people can find leisure to investigate, but how few venture to observe or think for themselves. Abernethy also experimented by holding

his hand in carbonic acid, when he found that in about nine hours three ounces, by measure, of carbonic acid were absorbed by the skin; and in the remaining gas, a considerable quantity of other gas which had been given off, which appeared to be nitrogen.

Desirous of ascertaining the quantity of carbonic acid gas given off by his hand in different gases in a single hour, he introduced his hand into various gases. In the experiment with

	Drs.
Nitrous oxide, there came off	6
Hydrogen,	4
Atmospheric air	3

The test for the carbonic acid was, as before, in all cases, lime-water. He also found that the skin absorbed oxygen much more readily than most other gases. One remarkable experiment we will notice, to show how laborious all these investigations were, and for the interesting nature of the result. He placed his hand alternately in vessels containing each twenty-four ounces, by measure, of nitrogen and oxygen gases. After eight hours' exposure in each, two thirds of the oxygen had disappeared, whereas only *one twentieth* of the nitrogen was absorbed. Indeed, there is no one feature of these experiments, perhaps, more interesting than those which suggest the stronger aptitude of the skin to absorb oxygen in comparison with other gases. For example, Abernethy found that the skin absorbed, by measure,

	Ozs.
Of oxygen gas, in eight hours	8
Of nitrous gas, in five hours	3
Of hydrogen, in five hours	1½
Of nitrogen, in eight hours	1

Mr. Abernethy then made some experiments on his

own lungs, after the manner that Mr. Cruikshank had done, to ascertain the quantity of water exhaled, by breathing into glass jars filled with and inverted in quicksilver, and by other methods, and also to ascertain the change produced in the air by respiration. These are all interesting, but we can only give general results, referring to the work itself as full of material for thought and future observation. He considered that, on the whole, the change in the air was, that in one hundred parts, consisting of

	Parts.
Nitrogen	80
Oxygen	18
Carbonic acid	2

that about three parts of oxygen were absorbed, while about twelve parts of carbonic acid were exhaled, the nitrogen being little altered, or even receiving some small addition. The quantity of inspired oxygen which disappeared varied in different experiments, probably depending on the depth of the inspiration, and the duration between it and the following expiration—the time, in fact, during which it was retained in the lungs. The smallest quantity which disappeared was one twelfth, the largest one sixth. The moisture (water) exhaled he found to be about three drachms in an hour.

These experiments, for the particulars of which we must refer to the book itself, contain a calculation of the extent of surface of the body, which he estimates at about two thousand seven hundred square inches, and about thirty-eight times that of the hand and wrist on which he experimented. Thus, if we multiply any of the results he obtained by thirty-eight, we shall obtain some idea of the prodigious power of this wonderful organ, and of the vast influence which its various

conditions must exert on the whole animal economy. The whole of the experiments in the paper are just as interesting as ever, and would, we are well persuaded, be found amply to repay further investigation.

They exemplify in every line his clearness of thought, and his care in deducing no other conclusion from the premises than they logically justify. The observations which he has annexed to his paper also are just and of great practical value; they discuss the bearing that the whole has to the relation which exists between the skin and lungs, and the influence of this on the causes of that fell destroyer, popularly known under the title of Consumption.

They are a portion of that investigation of relation between various organs on which any thing like the formation of a definite and practical science must ultimately depend. We shall endeavor in the sequel to explain the ulterior consequences which necessarily arise out of such considerations, when they are duly followed out. We shall endeavor to point out the share they had, in conjunction with other considerations, in leading to those beautiful and simple principles which Mr. Abernethy was led more especially to advocate; and show how far he went, as describing the starting-point of those who have endeavored at a fuller development of the consequences of his views.

He remarks justly enough on the determination to the lungs consequent on the repression of the surface, and the necessary *additional duty thrown on these* important organs, engaged in a common function with the skin, where the duty of the latter is not performed; and on the elements thus supplied for disease, *especially* in persons of restricted chest — relations,

be it remembered, which exist between the various other organs of the economy, and which exemplify in a single case truly what has been, we trust, since shown in regard to organs generally; how the organ, which may be the seat of the *disease*, may not be the seat of the original *cause*, but really a secondarily affected organ, a hint which, when followed out, is of *immense practical importance.*

The skin is by no means the only organ which has a community of function with the lungs, or through which these important parts become affected; but if this be so, and diseases of the lungs be treated as an *integral thing*, it requires no great penetration to see how diseases so handled may be incurable, since the real cause may never be ministered to.

Again, if a case should be successfully treated by means which afford all possible relief to the *lungs*, while the *primarily affected* organ is also properly treated, it by no means follows that the treatment should be the same in *every case;* for the primarily affected organ may be different in different cases. There is, in fact, no organ in the body which, when subjected to disordering influences, may not *secondarily* affect the lungs.

The liver is especially apt to affect them. It is engaged, like the lungs, in throwing off large quantities of carbon or charcoal from the system, and has been not very improperly termed the "abdominal lung." It is constantly, also, sending through the medium of the heart a large quantity of blood to the lungs. Now, if this blood have not the proper quantity of carbon extracted from it by the liver, or if even the blood be excessive in quantity, why, the lungs must have more to

do; and many diseased lungs have been produced in this manner in cases where the chest has been well formed.

There are, however, may intimate relations between organs which do not depend on mere community of function. It is very important that the public should have clear views on this subject; and if they would only give a little of that attention which they so often bestow on things infinitely more difficult, there is no doubt many lives would be saved that are irremediably damaged, as Abernethy says, sometimes even before any symptoms have suggested that there is any thing the matter.

But if there be a shadow of truth in Mr. Abernethy's views, and still more in those extensions of them to which they naturally lead, we may learn how necessary is that discrimination which traces disease to primarily affected organs, and how little success we may expect by treating the lungs as the integral seat of disease, by specifics or such remedies as tar, naphtha, cod-liver-oil, various gases, &c., which come in and go out of fashion in a manner sufficiently significant of the claims they can have in a scientific point of view.

Mr. Abernethy also remarks on the comparatively restricted influence of scrofula in constituting consumption. "At one time," he observes, "I examined the bodies of many people who died of consumption." After describing other appearances which he found, he says, "the greater number were bestudded with larger or smaller tubercles, or *made uniformly dense* (consolidated)." He says, this disease (consolidation) is *very insidious*—that it is often established beyond the possibility of removal before it is suspected; but, he

says, he thinks it might be known, for the capacity of the lungs is diminished; and suggests that this should be tested by allowing a suspected case to *breathe into a glass vessel over water*, by which the quantity of air they can receive is rendered perceptible.

His remarks, too, on the treatment are highly interesting and discriminative, and will not only well repay attentive perusal, but that study which is necessary to the perception of their full force and beauty. When we have to sum up the various influences of the views of Abernethy, we may probable find space for a few facts on that which they exert on the treatment of the lungs and skin; and this not merely as affecting the health in general, but also complexion, and other conditions of these curious and important organs.

We are unwilling to dismiss this paper without directing attention to the illustration it affords of the erroneous views of those who imagine that Abernethy's investigations were confined to the digestive organs, and still less, of course, to one of them (the stomach). It would, on the contrary, be difficult to find any paper on physiology so comprehensive in its views, so simple and clear as to its objects, so cautious and logical in its reasonings, so free from any bias, or with so little reference, either directly or indirectly, to what are usually understood by the digestive organs. On the other hand, it is an investigation which (as regards the relation which exists between two organs having a common function) is an exact type of what physiological investigation should be; for we have only to extend the idea of a relation which exists between *two* organs to those which exist between *all* organs; to regard as their *combined* functions the sustentation of

the life and health of the individual, just as we have been regarding respiration the common function of the skin and lungs; and we thus arrive at what must be the basis of any sound or comprehensive inquiry into the true relations of the various parts of the economy, by which alone we can interpret the phenomena of health or disease.

Moreover, however presumptuous the assertion may appear on the one hand, or however humiliating the view it implies of the present state of medicine as a science on the other, we must regard this investigation in every philosophical sense of the term as still among the "means untried" of the illustrious author whose words we have ventured to place at the head of this chapter.

CHAPTER IX.

HIS PAPER ON TIC DOULOUREUX.

"Quis talia fando
Temperet a lachrymis."—VIRGIL.

PERHAPS of all known torments, there is none that can be compared, either in intensity or duration, with that curious disease which has been called Tic Douloureux. Like the term Neuralgia, it is merely a hard word to express a violent pain in a nerve. Conventionally, the term neuralgia, or nerve-pain, is generally used to express a case where the suffering is of a more or less diffused character. The term "tic" is more usually applied in cases where the seat of pain is found in some superficial nerve. Neither term has much claim to the character of scientific nomenclature;

they are merely equivalent to saying that we know very little of the matter. This obscurity, however, may be soon lessened, if not entirely cleared, by any one who will go to work in the way suggested by Mr. Abernethy's principles, and in which, to a certain point, they will conduct him. He must, however, recollect that the pain, though a most distressing symptom, is still a *symptom*, and not the *disease* which gives rise to it.

This disease teaches us how beneficently framed we are in relation to all around us, and how small a deviation from a healthy condition of our sensations converts all usual sources of pleasure into so many elements of agony. The breeze, of late so grateful and refreshing, may produce more suffering than would be excited by the most intensely-heated furnace. In other cases, the cool spring, or the most delicious fruit, become causes of torture. We should exceed all reasonable limits if we were to enumerate all the usual sources of pleasure which, in different cases, are converted into so many instruments of suffering.

Tic douloureux is indeed a horrible malady, but one which, when properly considered, becomes very instructive. It admirably illustrates the views of Abernethy, and how ready he was to concede all that examination of the views of others which modesty and common sense requires, as well as how superior his own were both in philosophical acumen and practical value; first examining the views of others, and finding them defective, he, with the true philosophical spirit which first discovers what is wrong—

"Primus gradus est sapientiæ falsa intelligere,"

then proceeds to develop his own.

The nerves are the organs from which we receive impressions from without, and when their ordinary sensibility is thus morbidly augmented, we may be persuaded that there is something very wrong within.

The tic douloureux is one of the examples showing how cautious and circumspect, and how modest withal, Abernethy was in advancing to his own comprehensive views of disease, and how entirely antithetical the method he pursued in arriving at them was to that which attempts to cut the knot of difficulty by gratuitous hypotheses.

When this disease first began to attract attention, it was suggested that it might be cured by the division of the nerve. The phenomena of the nervous system afforded abundant grounds for mistrusting the soundness of this view. The tendency, however, to confound the more salient symptom of a disease with its intrinsic nature, caused such phenomena to be overlooked or little considered; and the consequence was, that where the nerve was divided, the treatment was sometimes entirely confined to that proceeding.

In the end, the operation disappointed expectation; and that which careful reasoning might have predicted as probable, was left to be determined by experiment. In some cases circumstances concurred to produce temporary relief, but, on the whole, the operation was a failure.

In the case he here published, Abernethy removed a little bit of nerve from a lady's finger. As she had suffered severely, and he was anxious to give her more permanent relief, he did not rest with merely dividing the nerve. For about nine months the lady was in comparative ease, but then the sensation returned. He

remarks on the interest attached to this return of sensation, and observed on the analogy it suggests between the supply of blood and nervous power; for if the vessels conveying the former be tied or obstructed, the supply is gradually restored through collateral channels. The return of the nervous functions after the removal of a portion of the nerve seemed to favor that view of the nervous system which regarded as the proximate cause of the phenomena some subtle principle or other, like electricity or magnetism, or some analogous power of which the nerves might be the conductors.

Perhaps the most interesting fact of this case, however, was the significant bearing it had on those views which he was beginning to deduce from a multitude of other sources—the fact being that, when the lady died, which she did about four years afterward, she died of disordered digestive organs; showing therefore, at least, the coincidence of the most severe form of nervous disturbance with disorder of these important functions.

We shall see by-and-by that Mr. Abernethy made this and other cases the instruments of much future good; but as we shall not be able to digress from that Summary of our obligations which we shall then be employed in taking, we will add a few words here in aid of removing that difficulty which some people have in understanding how such dreadful pain can result from any organ in the interior of the body, where no pain is felt at all. In order to this, it is only necessary to have a clear general notion of the nervous system. If you could take away every thing but the nerves, you would have the brain, spinal marrow, and certain knot-like pieces of nervous substance (gangli-

ons, as we term them) from which myriads of cords proceeded, varying in size from the smallest imaginable filaments up to moderate sized cords; the ends of the delicate filaments terminating in the various organs and on the surface of the body; millions of messengers of the most extreme sensibility, by which impressions are telegraphed with the swiftness of lightning between all parts of the body. There is, however, a habit or rule which is ordinarily observed, and that is one of the most curious things in the whole range of physiology—namely, that the immediate cause of our recognition of sensation is never in the part itself, but the action is constantly transferred to the extremity of the nerve. When you strike the ulnar nerve at the elbow (popularly termed, sometimes, the funny-bone), you feel it in the finger to which its branches are distributed.

If you place your finger in cold or warm water, the action that makes you feel it is in the brain; and we infer this, because if we divide the communication between the brain and the finger, you no longer feel the sensation. Now, bearing this in mind, you easily understand how any thing disturbing the nerves of any internal organ may produce pain in some distant branch; and that this is really so, many cases of tic douloureux have furnished conclusive and triumphant proofs. Now as to *why* it should be seated in this or that particular site is a question of extreme difficulty, as also in what organ the primary disturbance is seated, supposing it to have been in any of them. The former, I believe, is a question we have yet been unable to solve; the latter may usually be accomplished, if sufficient pains be taken.

Abernethy, in his lectures on this subject, when observing on the inefficiency of this division of the nerve, which was ministering to effects only, was accustomed to remark, with that peculiar archness of expression which his pupils must so well remember, "I wonder that it never entered into the head of some wise booby or other to divide the nerve going to a gouty man's toe." This was a very characteristic mode of terminating a discussion of any point which he wished to impress on the memory of the pupil.

SECTION.

ON OCCASIONAL CONSEQUENCES OF BLEEDING.

In these days of improved statistical inquiry, it would be a very curious document which should give us the comparative number of persons who are now bled, and that of only fifty years ago; and while it would present very instructive data as to the progress of medical science, it would give also some significant hints as to the relations of fashionable remedies. First, almost every barber was a bleeder; and within my own recollection, a lady, who for any serious ailment consulted the most eminent physician in the neighborhood in which she lived, would allow no one to bleed her but the barber.

The multitude of people lost a little blood every "spring and fall." Accidents of all kinds afforded a fine opportunity for bleeding. The papers announced accidents generally by the usual "It is with regret that we learn that Sir Harry —— was thrown from his horse in the Park. It was feared that the honorable Baronet had sustained serious injury; but, fortunately, Mr. Sharpe was on the spot, so that the patient was

immediately bled. He was conveyed home, and we rejoice to hear that he is doing well. The accident, which it had been feared was a fracture, proved to be only a 'dislocation.'"

The questions in regard to bleeding were said to be who, when, and how much (*quis, quando, quantum?*); but, to our minds, Aretæus has a better saying: "When bleeding is required, there is need of deliberation (*cum sanguinem detrahere oportet, deliberatione indiget*)." We like this better, because, in addition to the little words quoted above, it suggests another more important than either—namely, *cur?* why?—on many occasions, a favorite inquiry of Abernethy's.

We recollect a surgeon being called to a gentleman who was taken ill suddenly, and he found two or three servants and the medical attendant struggling very vigorously with the patient. While this was continuing, the first question put to the surgeon by the medical attendant was,

"Shall I bleed him, Sir?"

"Why should you desire to bleed him?"

"Oh! exactly; you prefer cupping?"

"Why should he be cupped?"

"Then shall I apply some leeches?"

This, too, was declined; in short, it never seemed to have occurred that neither might be necessary, still less that either might therefore do mischief.

It is the most curious thing to see the force of a well-grown conventionalism. As long as it led to moderately bleeding plethoric baronets in recent accidents, no great harm would have been done; but the frequency in other cases, in which bleeding was instituted with "apparent impunity," was too commonly

construed into "bleeding with advantage," until the practice became so indiscriminate as to be very extensively injurious. *Now*, comparatively, few persons are bled; and some years few ago I had a curious illustration of it.

In a large institution, relieving several thousand patients annually, and in which, a very few years before, scarcely a day passed without several persons having been bled, nearly a month elapsed without a single bleeding having been prescribed by either of the three medical officers.

No doubt many persons are still bled without any very satisfactory reason, but we believe that the abuse of bleeding is very much diminished, and that the practice is much more discriminate and judicious. From this, and perhaps other causes, a very important class of cases which engaged the attention of Abernethy, as it had that of Hunter before him, is become comparatively infrequent. But when bleeding was practiced with as little idea of its importance as some other of the barber-surgeon's ministrations, on all sorts of people, and in all sorts of disturbed states of health, and probably with no attention at all to the principles which should alike guide the treatment of the largest or the smallest wound, bleeding was very frequently followed by inflammation of the vein, nerve, or other contiguous structures. These cases were most of them more or less serious, often dangerous, and occasionally fatal.

Taking up the subject where it had been left by Mr. Hunter, Abernethy refers to the cases published in the two volumes of the "Medical Communications" by Mr. Colly, of Torrington, and by Mr. Wilson, and then pro-

ceeds to give some of his own. It is in this paper that he first moots two questions which have since grown into some importance by an extension of some of the practices to which they refer. We allude to the division of fasciæ and tendinous structures, and also of nerves in states of disease or disorder.

In many cases we see, in the application of such measures, how much that clear and quick-sighted discrimination is required which so eminently distinguished Abernethy. He, however, only *mooted* these questions at that time, for he observes that he had not sufficient experience to give an opinion. The chief value of the paper *now* is the good sense with which it inculcates a more careful and cleanly performance of bleeding; a more scientific treatment of the puncture, by neatly bringing its edges into apposition, and by keeping the *arm quiet* until it has healed. Neglect of these cautions in disordered states of constitution had no doubt been not infrequently accessory to the production of some of the serious consequences against which it is the object of this paper to guard. I need scarcely observe that the whole subject is important, and should be thoroughly studied by the young surgeon.

In 1793, Abernethy, by his writings and his lectures, seems to have created a general impression that he was a man of no ordinary talent. His papers on Animal Matter, and, still more, his Essay on the Functions of the Skin and Lungs, had shown that he was no longer to be regarded merely in the light of a rising surgeon, but as one laying claim to the additional distinction of a philosophical physiologist. The subject (of the skin and lungs) had engaged the attention of Boërhaave a long time before; Cruikshank also, and other very able

men, had followed in the same wake of investigation; therefore there was an opportunity of that test which comparison alone affords. Abernethy was, in fact, regarded at this time more in the light of a rising man than merely a promising surgeon. He now moved from St. Mary Axe (as I am informed), and took a house in St. Mildred's Court, in the Poultry.

Sir Charles Blicke had moved to Billiter Square. I find by the rate-books, which Mr. R. L. Jones was so good as to inspect for me, that this was in April, 1793. He could hardly fail at this time to have had a very acceptable portion of practice, although we apprehend it was not as yet extensive. His reputation was, however, fast increasing, which the attention paid to his opinion at the hospital at this time must have materially accelerated.

Certainly not later than 1795, there were very few cases of doubt or difficulty in which, independently of that participation in the consultation at the hospital common to all the medical officers, there was not especial value and influence attached to his opinion; and I have heard a pupil of that day assert, that in cases of real doubt and difficulty, there was nothing more beautiful in itself, nor more characteristic of Abernethy, than the masterly way in which he would analyze a case, bring the practical points before his colleagues, and at the same time suggest the course he preferred. As from his other occupations it would often happen that some consultation might be pending while he was engaged at the theatre or in the museum, it would often happen that a consultation would terminate for the time by some one observing, "Well, we will see what Mr. Abernethy says on the subject."

In 1796 he became a Fellow of the Royal Society, his old preceptor, Sir William Blizard, being one of those who signed the proposal for his election. He only contributed one paper after this to the "Philosophical Transactions." After his death the Duke of Sussex pronounced a very well-deserved eulogium, of which a copy will be found in a subsequent chapter. He had not been idle, however, but in 1797 published the third part of the "Physiological Essays," and which we will, in the next place, consider.

CHAPTER X.

HIS PAPER ON INJURIES OF THE HEAD.

"Utiliumque sagax rerum."—Hor.

In estimating the practical penetration and clear judgment of Abernethy, it was almost necessary to see him placed by the side of other men.

His mind was so quick at perceiving the difficulties which lay around any subject, that it appeared to radiate on the most difficult a luminosity that made it comparatively easy, by at least putting that which, to ordinary minds, might have been a confused puzzle, into the shape of an easy, definite, and intelligible proposition.

It was immaterial whether the difficulties were such as could be overcome, or whether they were in part insurmountable; both were clearly placed before you; and while the work of the quickest mind was facilitated, the slowest had the great assistance of seeing clearly what it had to do.

All this was done by Abernethy in a manner so lit-

tle suggestive of effort, that, like his lecturing, it was so apparently easy, that one wondered how it happened that nobody could ever do it so well.

But when we saw him placed in juxtaposition with other men, these peculiarities, which, from the easy manner in which they were exhibited, we had perhaps estimated but lightly, were thrown into high relief, and by contrast showed the superiority of his powers.

The second series of Essays he had dedicated to his old master, Sir Charles Blicke. The third, the subject of our present consideration, he inscribed to his early instructor in anatomy, Sir W. Blizard. The dedication is straightforward and grateful.

The first paper of the series is interesting in two points of view. First, it was an important improvement in the management of a difficult form of a very serious class of accident, "Injuries of the Head;" and, secondly, it derives a peculiar interest from the parallelism it suggests between Abernethy and one of the most distinguished surgeons of France, the celebrated Pierre Joseph Dessault—a parallelism honorable to both, yet remarkably instructive as to the superior discriminative powers of Abernethy. Dessault's pupil, Bichat, himself one of the most accomplished anatomists of his time, has left an eloquent eulogium on Dessault, which, although somewhat florid, is by no means above his merits. He says he was the father of Surgical Anatomy in France; and certainly few men evinced more sagacity in that immediate application of a fact to practical purposes, which constitutes art, than Dessault.

Bichat, in his glowing analysis of Dessault's character, among other things in relation to his study of the profession, observes of him that, "Un esprit profond

et réfléchi, ardent à entreprendre, opiniâtre à continuer, le disposa de bonne heure à surmonter des dégoûts qui précédent, et les difficultés qui accompagnent son étude. A cet âge où l'âme encore fermée à la réflexion semble ne s'ouvrir qu'au plaisir, apprendre fut son premier besoin—savoir sa première jouissance—devancer les autres sa première passion."*

A quick and clear perception, for the most part untrammeled by preconceived opinions, led Dessault to a vivid appreciation of the immediate results of surgical proceedings; and as these were definite, successful, doubtful, or abortive, he either persevered with a characteristic tenacity of purpose, or at once and forever abandoned them. He was remarkably happy in his selection and appreciation of the mechanical parts of surgery, and his quick perception disclosed to him several useful points in practice which depend on the more important truths of medical surgery.

Now *almost* all this, as applied to the active portion of Abernethy's life, is equally true of both. But Dessault was by no means so deep or so original a thinker as Abernethy. Like Abernethy, he was clear and penetrative; but he did not see nearly so far, nor were his views nearly as comprehensive. Dessault was quick at detecting an error in practice, and in sensibly rejecting it. Abernethy would unfold it, examine it, and by his talents convert the very defect into usefulness. Dessault had by no means, in the same degree, that power of reflection, that suggestive faculty which, in endeavoring to interpret the meaning of phenomena, can point out the true question which it is desired to ask of nature, as well as the mode of inquiry.

* Bichat, Eloge de Dessault. Œuvres.

All this and much more was strikingly developed in Abernethy. The paper before us involves a subject which had engaged the attention both of Abernethy and Dessault. They had met with the same difficulty; and the practical solution of it which each obtained, though somewhat different, was extremely characteristic. We will try to make this intelligible. In severe injuries in which the cranium is broken, it frequently happens that a portion of bone is so displaced that it presses on the brain. The consequence of this, in *many cases*, is a train of symptoms sufficiently alarming in themselves, but the actual cause of which many circumstances sometimes concur to complicate or obscure.

The same forces which produced the accident not unfrequently involve a violent shock to the whole body — sometimes fracture or other injury of other parts. Sometimes the patient is deeply intoxicated. Then, again, patients are presented to the surgeon in different cases at extremely different periods after the reception of the injury, so that the case is very different as you see it first at one or other phase of it.

These, and many other circumstances, give rise to various modifications of the symptoms, and, *under some complications*, constitute a class of cases which yield to none in importance or difficulty. There is something in the idea of a piece of bone pressing on the brain, which instinctively suggests the expediency of raising it to the natural level. This is, in fact, the object of what is called "trepanning," or, as we generally term it, "trephining."

This consists in nothing less than perforating the cranium, and then, by means of an instrument adapt-

ed for that purpose, restoring the piece of bone which has been depressed to its natural level. In many instances the operation was very successful, but in many others the cases terminated unfavorably. From what has been already hinted, it is clear that in many injuries of the head this operation must have been unnecessary, in others inapplicable, and in both (as adding to the injury) mischievous. Still surgeons went on trephining, so that, in a large class of injuries of the head, there was, if the bone was depressed, an almost uniform recourse to the trephine.

Again, in cases where it did not immediately appear that the bone was depressed, too often very unnecessary explorative operations were undertaken to determine that circumstance. In short, there was too much of analogy between the same matter-of-course adoption of the trephine in severe injuries of the cranium which we have noticed in regard to bleeding in more ordinary accidents.

For correcting the abuse of this very serious operation, we are under great obligations to Abernethy and Dessault, and we couple these illustrious names together on this occasion, because, although the amount of our obligation to Abernethy is much the greater, we would not willingly omit the justice due to Dessault.

Dessault may have been said to have given that first blow which so often determines the ultimate fate of a mischievous conventionalism—that blow which *compels the consideration* of its claims on our common sense.

Dessault had become extremely disgusted with the results of the operation of the trephine in his hands at the Hôtel Dieu, and on consideration, although, as it

would seem, from Bichat's edition of his works, that he did not in theory absolutely ignore the occasional propriety of the operation, he practically forever abandoned it, thus at once cutting the knot he felt it difficult or impracticable to unravel. As this was many years before his death, the principal argument on which he supported the relinquishment of the operation was simply that his success in the treatment of injuries of the head had been much greater since he had altogether laid it aside.

This is eminently characteristic of what people call "a practical man," but, after all, it is not very sound reasoning. Now here it was that the discriminative excellence of Abernethy began to tell.

In the first place, he observed that the raising of the bone could only be necessary *where it produced symptoms*. He also observed that experience had recorded certain cases in which, notwithstanding that the bone had been depressed, the patients had recovered without any operation. Then, again, he thought it not improbable that where the depression was slight, even though some symptoms might at first arise, yet if we were not too precipitate, we might find that they would again subside, and thus so serious an operation be rendered unnecessary. These and similar reasonings led him to recommend a more cautious practice, and to refrain from trephining even where the bone was depressed, except on conditions which referred to the general effects of pressure *on the brain* rather than to the abstract fact of depression of the bone.

He did not stop here; but having thus placed restrictions on the use of the trephine where it had been too indiscriminately employed, he then describes the

practice which is to be pursued where the pressure is produced from *effusion* on the brain.

Although, in laying down the rules to be observed in such cases, there is much of painful uncertainty as to the existence of effused blood, the site it may occupy, and other circumstances of embarrassment, still the rules he proposes in relation to the avoidance of large vessels, the condition of the bone as indicative of the actual state of the parts beneath it, &c., are all clearly and beautifully stated as deducible from the anatomical and vascular relations of the parts. The result of all this discrimination is, that the trephine is seldom employed, while the treatment of the various injuries of the head is much more successfully conducted.

He next proceeds to consider the distinction between those cases in which the brain has been *shaken* merely (concussion), and those where it has been subjected to mechanical pressure. There are two points in this part of the paper of great interest to the practical surgeon: the one, in which he treats of the distinction of the two cases; the other, in which he marshals the discordant practices of different surgeons in cases of concussion, and defines the proper phase of the case in which we may make them respectively applicable —when, for example, we may by warmth maintain, or even by cautious stimulation excite, the depressed powers; or, by judicious abstinence from either, avoid provoking too violent reaction; and, lastly, how we should combat the latter if it unfortunately supervene.

His Remarks on the Assistance to be derived from consideration of the Phenomena of Apoplexy, his reference to the cases which had occurred in the practice of other surgeons, and the observations he makes on

the lamentable omission of facts in the record of cases, are all worthy of profound attention. Equally excellent is the ingenuity with which he attempts the distinction between the cases of concussion and compression of the brain. His endeavor to discriminate the cases in which the effusion, or inflammatory action respectively, affect one or other membrane, is also extremely sagacious and characteristic. Whether we consider all or any of these features in the paper before us, or, lastly, that triumph of science and humanity with which he has so defined the limits of a dangerous operation as to have achieved a comparative abandonment of it, we think most surgeons will be inclined to regard this essay as one of his happiest contributions to the improvement of practical science.

In 1804 he added some cases in illustration of the views unfolded in this paper, and one case which appeared to be exceptional with what he considered to be its appropriate explanation. He also gives an interesting case of a suicide, in whom he had tied the carotid artery, in which the operation was followed by an inflammatory state of the brain. Here, again, his quick perception suggested to him the significant idea that *similar* states of brain might result from different and even opposite states of the circulation; a conclusion now, I believe, well established, one of great practical importance, and one for which, so far as I know, we are greatly indebted to the observations of "Dr. Marshall Hall on Blood-letting." In this case, Abernethy eulogizes the plan recommended by Dessault, of feeding a patient by a tube introduced through the left nostril. In concluding this remarkable paper, which

shows how much a great mind may extract from common subjects,

"Tantum de medio sumptis accedit honoris,"

we quote one remark which impresses the importance of a requisition, the essential basis of all scientific inquiries—namely, a careful collection of facts.

"In proportion as we advance in knowledge," says Mr. Abernethy, "we are led to record many circumstances in the progress of the disorder which had before passed without notice, but which, if known and duly attended to, would clearly point out to us the nature and remedy of the complaint. Hence the records of former cases are of much less value, as the symptoms about which we are now anxious to inquire have in them been entirely overlooked."

CHAPTER XI.

ABERNETHY'S EXPERIMENTS ON THE MUSCLES IN FROGS, &c.

"THERE are more things in heaven and earth than are dreamt of in your philosophy, Horatio," is a sentiment which, in some form or other, occurs to the most uninformed peasant and to the most profound philosopher.

The very small difference between the acquisitions of the two, however marvelous when viewed abstractedly, sinks into nothing when compared to the secrets of nature which yet remain unexplored. This comparison is the true source of that humility which, while it adds dignity to the acquirements of intellect, is the foundation on which we may most securely rest the hope of increasing possessions.

The intellectual vision of the wisest man confines him to a very small area when compared with the boundless realms of nature. There are, indeed, a number of objects within the range of his perceptions whose nature and relations he has the power of examining, but there are also a multitude of others which, from their dimly-sketched outline, he feels to be beyond the bounds assigned to his limited faculties.

One of the most curious things in animals is the rigidity or stiffness of their muscles after death. It is the last effort, as it were, of the living principle. This phenomenon may be indefinitely modified by particular states, by lightning, by poison, and other peculiar conditions, induced by the manner and the period at which the death may have occurred; and in all cases it continues but for a short time. It is the last exercise of that power which resides in muscles or flesh, of contracting, and thus moving the various parts to which it is attached. In a very large sense this power is under the dominion of the will, and enables animals to move as their instincts or their wants suggest.

Now it is a curious thing to think that this power can be excited after death by placing the part between two pieces of metal, or galvanizing them, as it is called, after the name of the discoverer, Galvani.

It is difficult at this day to imagine the astonishment of the wife of Galvani, or his pupil, when first they observed the leg of a dead frog thrown into convulsions on being touched by a piece of metal; such, however, was the apparently simple origin of a long series of wonderful discoveries. It has been well observed, however, that "discoveries, apparently the result of accident, always imply the exercise of profound

thought;" and this was no less the case in respect to galvanism. A fact which, but for the mention of it to Galvani by his wife, might have passed unobserved, was, by the scarcely less than creative power of mind, improved into a most important branch of human science.

Ignorant as men still remain of the intrinsic nature of the principle or power which gives rise to the phenomenon, the observation and study of its laws and operations have led to discoveries which, in their value, their importance, and their surprising character, yield to no other yet achieved.

Abernethy, who at this laborious period of his life had his observation directed every where, made some experiments on this power—galvanism—in its relations to the muscles of frogs.

His object seems to have been as follows: Fontana (a celebrated physiologist, born in the Tyrol about 1734) had showed that a muscle which could no longer be excited to contract under water, might be excited anew if taken out of the water and exposed for some time to air. This observation had suggested the idea that air was in some way or other conducive to this "irritability," as it was termed. Dr. Girtanner had also endeavored to prove that the irritability depended on the oxygen taken into the blood during respiration, and that the irritability was in a direct ratio to the quantity of oxygen respired, "an opinion which some writers in this country seem disposed to adopt."

Abernethy doubted the soundness of such a view, and he accordingly instituted some experiments, in the hope that, if he could not absolutely determine the question, he might throw some light on it. His exper-

iments were very numerous, but he published only a few of them. We will give one or two. "*Having killed a frog* (for he properly objected to experiments on living animals), he experimented on the muscles of two legs; one was put into a bottle containing oxygen gas procured from manganese, and which was very pure; the other into a bottle containing atmospheric air; the quantity in each bottle was about six ounces by measure; the limbs were supported in the airs, and wholly surrounded by them. After five hours the muscles had nearly ceased to act in both limbs; those, however, of the thigh belonging to that limb inclosed in the common air acting more vividly than the others, but in a little time even these could no longer be excited. Upon comparing the limbs afterward, the muscles of that which had been exposed to the oxygen gas were evidently the most flabby. Several other trials were made with a similar result;" whence he observes, "I am disposed to conclude that oxygenous gas has *no greater power* of supporting the irritability of parts *separated* from the animal than the common atmosphere."

In some of his experiments the limbs continued to be excitable after eighteen hours, but with little difference in the two gases.

He next made several experiments by placing the limbs of frogs in nitrogen and hydrogon; the limbs in nitrogen lost their irritability in about two hours and a half, those in hydrogen in about four hours.

Experiments then follow which consisted in placing limbs in carbonic acid and nitrous gases respectively, both of which ceased to act in an hour and a half.

He also placed limbs in carbureted hydrogen, and

found that they ceased to act in one hour and a half. In other experiments he found the correctness of Fontana's results—that limbs placed under water, and which had lost their irritability, had for a time recovered it by exposure to air and moisture.

Perhaps the most interesting of the whole series are those in which he compared the results obtained *in vacuo* and atmospheric air. He says, "I put one prepared limb of a frog under the exhausted receiver of an air-pump; it lay on a plate of glass, supported by a cup; zinc was placed beneath the thigh, and gold under the leg; and by means of a probe passing through a collar of leather, I could touch both metals, so as to excite the muscles to contraction. This I did occasionally, and found the limb capable of excitement for twenty-two hours. The corresponding limb, which was left exposed to the atmosphere, also contracted at the end of that time, so that it was doubtful which of them retained their powers in the greater degree. The same experiment was repeated several times with results so nearly alike that I am inclined to believe *irritability* continues very little longer in common air than it does in the exhausted receiver of an air-pump.

"I have frequently produced numerous contractions in the limbs of frogs inclosed in azotic, hydrogenous, and other gases, which likewise tend to show that the cause of irritability does *not depend on oxygen* for its power of action."

He then remarks that, notwithstanding the great importance of oxygen, he thinks it has been overrated, for says he, "Different tribes of animals partake of it in different degrees, and those who have the least of it are far *from being the least vivacious.*"

He here reasons on premises which were then universally admitted, and which form at present a portion of many very questionable impressions in relation to respiration.

We mention one, "that fish, frogs, &c., breathe less oxygen than warm-blooded animals." But while in respect to the frog, there are many conditions relating to the skin to be considered before we can admit this position, we hold it to be demonstrable that fish breathe more oxygen than most other animals—due attention not having been paid to the enormous proportion of oxygen in the air found in water—being, in fact, about one third. In his concluding remarks he says, that as regards nitrogen, hydrogen, and carbonic acid, it only shows what we knew before, that they are injurious to life, and that oxygen is not more beneficial than common air. The experiments "showing the long continuance of life and action in muscles in an exhausted receiver he considers worthy of notice, as tending to show that the cause of irritability in muscles, when once formed, does not require the assistance of external matter."

Lastly, he gives an experiment on the blood (which shows how he was working in every direction), in aid of the opinion that the blood derives its scarlet color from the action of oxygen. "I took the coagulum of venous blood left in a basin after bleeding, and, turning it bottom upward, waited till its surface had become of a scarlet color. I then took slices of this surface, and similar slices of the interior part of the coagulum, which had a very dark appearance, and exposed them repeatedly to azotic and nitrous gases. The scarlet color gradually faded upon such exposure; and the

azotic gas being afterward examined, was found to contain oxygen, while nitrous gas was much diminished, doubtless by combining with the same principle. The gases to which the dark-colored blood was exposed underwent no change in this experiment. That blood takes oxygen from the air when it becomes florid, will not, I suppose, be denied, and the experiment I have related shows that it will again part with it, though slowly, without *any alteration in its temperature.*"

The principal interest, as we think, of this paper on "Irritability," is the evidence it affords of his determination to keep his mind free from preconceived notions on a subject which was at that time calculated to mislead him, especially as he then participated in the general impression that the Oxygen was "the great source of animal heat," a view which he afterward, and, as we think, for excellent reasons, mistrusted.

This view has been revived, but, so far as we know, in no very philosophical spirit. While we would respect the opinions of men, we can only reason on the paramount authority of nature; and we see increasing ground to believe that he who would leave out of physiological inquiries so large a portion of the necessary induction as the phenomena of disease, no matter what be his authority, will only add to the number of those who have shown that, the moment we neglect the most comprehensive search for facts, of which our knowledge admits, we fall into error. Mr. Hunter has recorded his opinion of the impossibility of obtaining a knowledge of functions without considering the phenomena of disease, and all experience hitherto has tended to give this observation the validity of an axiom.

CHAPTER XII.

OF EXPERIMENTS ON ANIMALS

"Know, Nature's children all divide her care,
The fur that warms a monarch warmed a bear."—POPE.

In the foregoing experiments, the reader will have observed the significant words, "having killed a frog." Abernethy not approving of experiments on living animals. When we reflect for a moment on the thousands of dreadful experiments which have been made on living animals, and the utter inconclusiveness of them for any useful purpose, there are, among the numerous errors by which so many philosophical inquiries have been delayed or defeated, few that are more lamentable.

This mode of investigation has not, so far as we can see, produced any one useful discovery, while it has tended to obscure, by all that is disgusting and repulsive, the true mode of cultivating a most alluring science.

But as we write, however humbly, as physiologists, we may be regarded as advocating the claims and attractions of that science with something of the *esprit de métier*, rather than in the cautious spirit which should characterize a philosophical discussion, let us for one moment consider the claims of physiology on the attention of mankind.

Physiology has for its object the investigation of the functions and relations of the whole organic kingdom (the vegetable and animal creation), and can not be

successfully cultivated without consulting the phenomena in both these kingdoms of nature.

The branch of physiology most interesting to the medical philosopher is that which deals with the functions of animals in general, and of man in particular. The special interest to the medical philosopher is therefore obvious; let us just glance at its more general claims. Linnæus said that the world was one vast museum; and it illustrates the nature and attributes of the Deity.

But how? In the first place, by the numerous evidences it *every where* presents, even to our finite capacities, of design, wisdom, and power; and further, of the Unity of that power. But, to our finite perceptions, it does not *every where* present evidences of love, mercy, and parental care; not because they may not exist universally, but because our faculties do not allow us to connect these ideas with any but "sentient beings."

This alone renders physiology one of the most elevating of all human studies—most general in its application—most comprehensive in the attributes it unfolds to us, and, therefore, most refining to our moral nature.

Although, therefore, we would claim the special theological evidences of physiology as the distinguishing excellence of this science, it is not less commanding as regards the evidences which it affords in common with other parts of the Creation.

In animals, we see not less indications of design, wisdom, power, and beauty than elsewhere, but we *also* see a provision for their wants and comforts, of such a kind as leaves no room for doubting that both

have been the objects of design. We need not here go into the multiplied proofs of this proposition. *A priori*, then, it would seem very unlikely that a mode of investigating the functions of animals would be productive which begins by ignoring one of their most striking relations.

This, too, at once suggests the moral question? Is it right? There is no necessity, for our present purpose, to moot that question. We have, over and over again, challenged investigation, but the case is too clear to admit of discussion. Again, although we humbly submit that the moral bearing of philosophical questions is always a legitimate subject of inquiry, yet it is inexpedient to introduce that question where it is not required. The questions whether the progress of physiology has been accelerated by experiments on living animals; or whether the treatment of diseases has been improved by that mode of inquiry, or whether it has tended to mislead people into erroneous and mischievous views, are all things that admit of proof entirely independent of moral considerations. Now we should be sorry to appear to undervalue that which we most highly prize, or to represent that to be irrelevant which is, in all subjects, the great consideration; but it is wise to take the ground chosen by those who argue in support of a fallacy, not that which they would ignore or regard as disputable.

As we have already observed, we think it demonstrable that experiments on living animals, involving cruelty, have been entirely unproductive, while they have tended to mislead more than any other mode of investigation whatever. Some years since we corrected some very unaccountable misstatements in regard to the ex-

periments of Orfila, Sir Charles Bell, and others, which could only be accounted for by a want of attention to the works from which they were selected; for it is curious to observe that (though different in kind) the most conclusive evidence of the erroneous value attributed to the experiments is furnished by the distinguished authors themselves.

Orfila wished to know what would be the effect of various poisons on the animal economy. He therefore set to work as follows: He opened the gullet of a living animal, put in the poison, and then tied the tube; and this to ascertain how the stomach dealt with substances of this kind taken into that organ. Now there have been, unfortunately, too many instances afforded by accidents and by suicides of these very things in the human subject, presenting us with a series of facts deplorable enough, it is true, but which, regarded merely as grounds of philosophical inquiry, are free from objection, while the experiments made by Orfila on his tortured animals are obviously loaded with all the elements of fallacy. We say nothing of the horrible cries that Orfila describes these animals as uttering; but surely if the object had been to interfere with and obscure the processes of nature by every conceivable ingenuity, one could not have imagined any conditions better calculated for this purpose.

Sir Charles Bell was a physiologist who distinguished himself by a really important discovery, and it has been cited as an example of the successful application of the mode of inquiry in question. Whoever will read his book will at once perceive the truth of that which he himself judiciously observes—namely, that physiology is much more a science of observation than ex-

periment. As to the influence of experiments on animals in his own discoveries, we have his own authority for denying it. He states very clearly the object with which he was reluctantly induced to make some experiments. They had, in fact, nothing to do with his *discovery*. They were made in reluctant concession to the slowly-paced perceptions of others.

This he had the manliness to acknowledge, and the benevolence to regret. In short, examine what series of experiments we may, we always find them either wholly unproductive, or, if they appear to prove any thing of value, it is always something that is much more logically deducible from sources altogether unobjectionable. But if this be so, is there no mischief in unproductive modes of inquiry? Again, putting aside the brutalizing tendency of such practices as part of the moral question, Is life so long? Is Science so easy? Is Physiology, and especially the deplorably halt condition of Medical Science, in such a state that we can afford to waste time in vicious modes of inquiry? We think not. Is there nothing mischievous in our endeavor to obtain by the evidence of sense (the eye) that insight into nature which Lord Bacon has so emphatically warned us is the office of higher—in fact, of our intellectual perceptions? If we are not allowed to indulge in feelings of disgust and abhorrence at all that is revolting to common sense, and our best and kindliest sentiments, can we read without distrust of experiments which so disgust by their nature that we know not how to describe them, or which are so revolting, from their cruelty, that the mind recoils from the contemplation of them? Is it possible to read many of the experiments of Spallanzani without feel-

ing the same disgust that Abernethy used to express in regard to them, or to read of opening animals alive, dividing them with instruments, breaking their bones, or running red-hot wires into their cavities, without feelling (if, indeed, any thing better is to be regarded as merely "mawkish sentimentality") that at least valuable time has been wasted in pursuits which have been brutalizing and unproductive?

In a review of some Biography in the "Quarterly," one of the experiments was characterized by the writer as "hellish;" we have no desire whatever to use unnecessarily strong terms, nor do we think that the one above mentioned was too strong for the case to which it referred; but we think that this extremely fallacious mode of investigation will be most quickly abandoned, by meeting fairly, and in a mild and moderate spirit, any allegations in its favor Dr. Hull, of Norwich, and several other eminent persons, have expressed their dissent from this mode of inquiry.

For our part, we have several times stated our willingness to discuss any class of experiments which may be selected; for, although we may not express ourselves so well as a late writer in the "Quarterly," yet to our minds heaven and hell do not present an idea of greater contrast than that afforded by the notion that laws which govern the whole animal kingdom, and which present, at every moment, accumulating evidences of goodness and mercy, should be auspiciously sought, much less have their nature and relations developed by torture of those very objects for whom such benevolent provisions have been designed. We have paid some attention to this subject, and it is very curious to remark that observations or experi-

ments, when they cease to be cruel, become instructive.

Indeed, if we reflect for a moment, we shall see that it must be so. If we desire to know the actual nature of any living being, it must be as if we were ourselves unseen—that is, that the animal may be in a perfectly undisturbed condition. The moment we *lose* this, elements of interference immediately arise and fog our reasoning; and the more refined the inquiry, the more the avoidance of disturbance becomes essential; so that, in fact, the utmost success in obtaining the conditions *philosophically* necessary depends on maintaining as nearly as possible the natural condition—that is, the comfort of the animal.

In every path of life there are unpleasant duties, and it might have happened that the functions of animals could only have been investigated by the means we would repudiate; but the simple truth is, that it is demonstrably otherwise.

Abernethy had a decided objection to experiments involving cruelty. He never made any himself that could fairly be so called, and he never alludes to the subject without some remark tending to show his disapproval of them. Nor is it, in our view, any disparagement that his benevolent feelings were largely influential in governing his opinions on this subject. He began his researches with the ability and inclination to investigate Life under every phase, at a time when no one had begun, so far as we know, to question this mode of investigation. But while he left no other untried, he only recognized experimenting on living animals so far as to show that his benevolence could be sufficiently discriminative to select experiments where

the existence of suffering was doubtful, and that the doubt alone was sufficient to induce him to abandon the pursuit.

We are sorry to dismiss a subject of so great importance with what we feel to be so meagre a discussion. But it would require more than our whole space to examine the many thousand torturing experiments, and expose the uselessness and fallacies which they exemplify. We have elsewhere discussed the subject somewhat more at large; here we have only the opportunity of just touching on it. The greatest respect we can pay the memory of a great man is to apply carefully any principles which he may have left sufficiently matured for practical purposes, and so to treat those of which he may have only left us hints or elementary suggestions as shall most searchingly examine their nature and claims to further development and cultivation. If every opportunity is not sufficient to do this in full, we must comfort ourselves with the hope that where there is not ability to produce conviction, there may appear sincerity of purpose to induce the still more valuable result, "patient inquiry."

That is a duty which we owe to every subject on which we venture to form any opinion, either in the study or the practice of our profession, and we have the utmost confidence that the scientific investigation and the moral argument will be found to coincide.

> "Heaven's attribute is universal care,
> And man's prerogative to rule, but spare."

CHAPTER XIII.

HIS REMARKS ON TUMORS.

"Cogitatio in vero exquirendo maxime versatur. Appetitus impellit ad agendum."—CICERO.

"The Intellect engages us in the pursuit of Truth. The Passions impel us to Action."

IN our brief sketches of Abernethy's works, we are quite as desirous of showing why he did not do more, as we are of setting down faithfully our many undoubted obligations to him. This, indeed, is the best mode of giving an onward impulse to those approaches toward a definite science which (John Hunter excepted) he was the first to secure. If we would increase the usefulness of those beautiful principles which he has left us, we can hardly do better than endeavor to point out any error or deficiency in the investigation of any subjects to which such principles may be applicable. His work on "Tumors" contains much that is interesting in regard to the peculiar character of his mind, and his aptitude for simplification. He does not undertake a thorough investigation of the subject. His object seems to have been to place in an intelligible order; to chronicle and mark that which was *really* known; to pack together, as it were, that which was clear and positive, in a form convenient for consideration; to remove that disorder and obscurity which seem to hang about the threshold of all inquiries, and substitute so much of arrangement and perspicuity as might invite, and perhaps facilitate, further investigation.

He states the more important facts which he had observed, and conducts his classification of the so-called "Tumors" on a basis as scientific as it could be on an imperfect induction of facts. He did this in a way eminently characteristic of his quick perception, in seizing those properties on which a nomenclature should be based, and in marking those distinctions which, in a practical science, must always be regarded as of the greatest value. He founded his nomenclature chiefly on certain resemblances observed in these diseases to well-known structures of the body.

The simplicity of this plan, so long as the resemblance is obvious, is just that which constitutes excellence in nomenclature. To take an example among others, he says there is a tumor, the structure of which resembles the Pancreas, or Sweet-bread, as it is popularly called, and to this tumor he gives the name of Pancreatic. Now every one knows a sweet-bread, and the name implies no opinion whatever as to its nature; it simply declares a fact. Whatever we may ultimately discover with regard to tumors, a name of this kind, though it may possibly be exchanged for one more significant of the nature of the disease, will still leave us nothing to unlearn, for the tumor in question will always have that resemblance from which Mr. Abernethy named it; and if we should find (as indeed we do find), in course of time, that diseases undergo alterations of type, the rarity of a tumor resembling the sweet-bread would record that circumstance.

Had he examined them by the microscope, and selected the appearances so elicited as grounds for his classification, it would have been much less useful. In the first place, comparatively few persons would

have had the opportunity or taken the pains to *observe*; and, secondly, we should have had the inconveniences resulting from that variety which we generally find in the reports of microscopic researches. There is just now a great disposition for microscopic inquiry, perhaps somewhat too much; but no channel should be neglected if it be not too exclusively relied on. Abernethy amused himself at one period in examining ultimate structure by the microscope, but he seems to have had but a very measured reliance on this mode of investigation.

Judicious nomenclature is of immense importance in the frame-work of a science, and a want of care in this has probably done as much as any thing to impede the course of rational investigation. There is nothing, perhaps, in the whole range of science more to be lamented than many—indeed, I might say all—parts of medical nomenclature. If our ignorance prevents us from giving a name to a thing which is descriptive of its nature, we might easily avoid applying such as are calculated to mislead; we can imagine the confusion which would result from a druggist labeling a bottle of water "poison," and a vessel containing poison "water," yet we doubt whether he would more imperfectly express the true relations of these fluids than the terms "fever" and "inflammation" do the real nature of the conditions which they are employed to designate.

Abernethy's arrangement of tumors not only illustrates his disposition to seize on the more salient points of a subject, but also his inclination to seek for the essential relations of (so-called local) disease in the general condition of the body. He consistently, therefore, mentions them in an order founded on such relations.

He places those first which he had found least dangerous in their nature, least destructive in their effects, and which appeared to him to have been attended by the least disturbance to the general economy. In like manner, he placed those which had manifested more malignant or dangerous characters in the order of their severity, inferring their characters respectively from the disturbance of the constitution, the resistance of the disease to treatment, and the variety of structures destroyed in its progress.

Between these two extremes, he placed, as the step of transition, that tumor which he had observed to partake most strongly of intermediate characters. But, besides the desire to throw some light on the subject of tumors generally, he had another special object in view. Few diseases exemplify the absence of scientific research more than tumors. In regard to most of the morbid depositions, it may be remarked that, even now, whenever a patient with one of these so-called tumors applies for advice, the practicability of removal is too often the only thing thought of; and it must be obvious to common sense that the mere cutting away of a deposition of this kind (however proper under some peculiar circumstances) can hardly ever exert any influence on the causes of its production. Indeed, the manner in which these diseases are continually removed, without any previous inquiry that is really worthy of the name, is among the many grounds on which we found the opinion expressed in the sequel on the present state of medical surgery, as contrasted with that in which it was left by Abernethy. Now, while the gravity of the subject rendered the consideration of all tumors important, there was one which in an espe-

cial manner had eluded all efforts to expose its nature and dependencies—this was the justly-dreaded cancer. In regard to this, Mr. Abernethy hoped that further information might be obtained, by investigating other tumors more closely, and thus bringing, as he expresses it, collateral knowledge to bear on it, "like light shining from various places to illustrate the object of our researches."

Here was a suggestion in the true spirit of philosophical inquiry, while, in taking so simple a basis for the names of tumors, and then associating them in arrangement with their respective constitutional tendencies, he adopted the best mode of recording in a general sense their more important relations. But the fault lay in the suppressed premise that the *relations* of the so-called tumors were comprehended by a division which is not founded in nature. Nothing, indeed, can be more artificial than that division of diseases to which surgeons usually restrict the term tumor—a defect which besets all medical inquiries. The old division, in which all sorts of diseases were jumbled together under the general name of tumors, defective as it might be, was much more auspicious, had it ever been made the object of a really philosophical inquiry, because the very diversity of the phenomena they presented would, by the ordinary process of common sense or inductive reasoning, have only served to bring out their common characters—a most important first step in all investigations of this nature.

Had Mr. Abernethy extended that collateral view which he justly insists on to *all sorts* of *new depositions*, instead of confining it to the so-called "tumors," he would have detected how artificial was the division,

and taken it at its just value; he would have found that he had excluded circumstances which not only led to a much more intimate knowledge of the relations on which those so-called tumors depend, but which confer a power of demonstrating easily, and in a more particular manner, to the most ignorant or prejudiced, those relations to a disordered state of the body which, without such assistance, it required a mind no less penetrative and suggestive than Abernethy's to give even a general enunciation. This defect essentially consisted in the vice we have before alluded to, and is nothing else but a violation of one of the rules most insisted on by Lord Bacon.*

It proceeds, perhaps, from the habit of looking at subjects through a medium too exclusively anatomical, and by which even Mr. Hunter was sometimes, though exceptionally, hampered. Popularly, it was deducing conclusions from only a portion of the facts of the subject; but if Abernethy did not get the whole of the facts, and therefore missed some portion of the conclusions to be drawn from them, he at least avoided the error of inferring any thing positive which the facts did not warrant. We hope, however, that the paper has been valuable in enabling some of us to arrive at further views, which serve to confirm the truth, and extend the application of those entertained by Abernethy.

Now, to put the whole thing popularly, and to direct the public view to the common sense of the matter, it is obvious that if we want to know the real nature of any growth whatever—say a tumor, a plant, or an ani-

* That the nature of a thing is not to be sought only out of itself, but from things more in common.

mal—we can not do this by any examination of its structure *alone*. If we desire to know its nature, we must also examine its habits, food, climate, and the various influences to which it is subjected. If, indeed, this were once done, then it is very possible, on again seeing the structure *merely*, we might recognize its real relations, although we might still be glad to have any well-known substance to which we could compare it, if only to *record* its identity. This is right enough, thus to *obtain* the general knowledge before we *assume* the particular. Again: suppose I had some ground growing all manner of plants and twenty different sorts of fungi, what should I get by *merely* examining the fibres of one or the other?

But I should easily discover that some plants grew best in one soil, some in another, some with more moisture, some with less; while the very circumstances of soil, moisture, and so on, which were essential to some, might be enfeebling or destructive to others. No one will for a moment doubt that the kind of nutrition was of great importance in all, and this would necessarily lead me to infer that, "If I desired to get such a fungus, I must have more moisture, less air, less heat or light, or another soil," and so on.

In a plant, you must also look to the roots and other parts of the organism. Now this is exactly what should be done in regard to tumors, and for no reason more strongly than that the great beauty and beneficent effects of Mr. Abernethy's views may become practically useful; for, in the same manner that we would desire to influence the plant or the fungus through the sources whence it derives its nourishment, as air, water, various ingredients in the earth, and so on, so the

only channels by which *we* can effect any influence are those organs by which these matters are ultimately changed into the structures we wish to maintain there, or we desire to get rid of, as the case may be. Now, although the number and relations of these organs may render the investigation more difficult in one case than in another, as their relations are more multiplied as the animal or vegetable is more or less simple or complicated in structure, yet, whether we take our example from man or any other animal—or, in fact, any organized being of the countless modifications we find in nature—still the instrumentality through which the vital power acts is neither more nor less than the assimilating organs.

If we have been too professional in this discussion, we plead as an apology that in no one point in the whole range of surgical practice would unnecessary suffering be avoided more frequently than on the subject before us, provided only that what is clear and positive, as distinguished from what is conventional and erroneous, were once popularly familiar; for, among other evils, most of the operations in this department of surgery are not only superfluous—to use no stronger term—but they yet practically interfere, more than any *one* thing whatever, with the progress of the scientific investigation of the nature of these maladies.

The removal of them by operation is too commonly undertaken, not only under circumstances which, as Abernethy said, "add cruelty to calamity," but for reasons which logically forbid such a proceeding; and although there are conditions which call for such interference, yet those under which it is usually instituted help only to obscure the real relations of the dis-

ease, and to throw the shadowy veil of an irrational empiricism over the operations of nature.

Those who recollect the remarkable results which Abernethy sometimes obtained in regard to this intractable and often formidable class of diseases, will, I think, be disposed to agree in thinking that few diseases are more open to improved investigation, or promise a more encouraging prospect of enlarging the boundaries of philosophical medicine.

SECTION.

HIS PAPER ON A CURIOUS CIRCUMSTANCE SOMETIMES FOLLOWING INJURY TO THE LUNGS.

Fractured ribs are common accidents, and illustrate very beautifully those conservative principles in animal bodies which give such interest to the study of their economy.

When first we consider that the ribs form the greater part of that box in which the lungs and heart are inclosed, and by which they are protected, we are disposed to regard a fracture of one or more ribs as a very serious affair.

Nevertheless, these accidents generally do extremely well. In the first place, the gristles, or cartilages as they are called, by which the ribs are attached to the sternum in front, give, in conjunction with the spine behind, considerable elasticity to the whole structure of the chest. Most injuries have therefore to overcome the elasticity before any thing gives way; and when the rib has done so, and is fractured, the resiliency of the cartilage or gristle to which it is attached tends to restore it to its place, or to set it, as we phrase it.

Another very common thing in accidents is the in-

stantaneity with which muscles which are ordinarily under the dominion of the will become reluctant to obey it, or altogether repudiate its authority. In all fractures, of course, the most material thing is absolute repose, and there is very little chance of a man moving his rib when it is broken. He instinctively begins to expand his chest for the admission of the necessary air by other muscles, usually to the exclusion of those which are attached to the broken bone.

The Lung, which may be considered as a series of tubes, some conveying blood and others air, is often wounded, but the blood immediately stops the leak, from its tendency to coagulate when out of the vessels, and no harm ensues. Occasionally, however, a circumstance occurs, which, until it is understood, appears curious and alarming. Either from the extent, the scratching of the surface, or some other peculiarity in the wound of the lung, the air escapes from it, and the patient is, as it were, blown up, as in the chest, neck, and face, by the air impelled from the lung beneath the skin into the connecting tissue, exactly in the same manner as the butcher does when he is preparing veal. This blowing-up is called, from the Greek word for it, *Emphysema*, and it was on this feature in these accidents that Mr. Abernethy wrote a short paper.

There is not much which is absolutely new in it. It is chiefly remarkable for the clear manner in which it places before us what is required, as distinguished from what is officious and unnecessary, and, in fact, reduces the treatment to that of ordinary cases with one clearly defined modification.

He shows his familiarity with Pneumatics, so far as

they are touched by the case, just as he does his knowledge of Chemistry elsewhere. The exceptional cases, in which the air is confined in the chest, the mode of procuring it an exit by operation, and the condition regulating this proceeding, are very simply and clearly laid down.

The paper also contains remarks on the collapse of the lungs when the chest is opened, and on certain exceptions which have been observed, which, from their general interest and suggestive character, will well repay an attentive perusal.

He next offers a few remarks on those mothers' marks, as they are popularly called, and which are technically styled nævi; these are usually little more than clusters of enlarged blood-vessels, and are usually removed by excision or other operative proceedings. As the essential character of these marks is increased action and size of vessels, Mr. Abernethy thought that if well-regulated pressure were made on them so as to impede the flow of blood into them, and this were conjoined with Cold (which represses vascular action), many of them might be got rid of in this manner. He found his idea realized, and published three cases of its success. The value of these suggestions consists, first, in the opposition they offer, *pro tanto*, to that absurd tendency there is to remove every thing like a tumor, and the impediment thence arising to any searching inquiry into the causes on which they depend.

But there is another inconvenience which occasionally renders the excision of these nævi very unadvisable. It sometimes happens that they are so situated that they can not be removed without making the dis-

figurement greater, or from some other still more serious objection; as, for example, when small ones occur in the face, or when they are placed near the eye. Under such circumstances, the contraction consequent on a wound of any extent is a serious inconvenience; in some of these cases the adoption of Mr. Abernethy's plan allows us to dispense with the operation by excision, as I have myself experienced. As it illustrates the advantage of the plan in a case where it was particularly applicable, I will briefly refer to one example. A young lady had one of these marks at the root of the nose, where, from the position, as well as from the contiguity of the eyes, any dragging from the contraction of a scar would have been particularly undesirable. She was brought from the country to have it removed, but, on representing the objections to that course, it was agreed to try Mr. Abernethy's plan, which was completely successful.

At this period Mr. Abernethy published sundry other interesting papers, showing, in his observation of all that was passing around him, that his views were not less circumspect and comprehensive than they were clear. His "surgical cases" are all excellent; and if they do not contain so full an account (the great vice of medical records) of all the circumstances which preceded them as are sufficient to furnish future investigators with the elements of accurate generalization, they are remarkably valuable for the qualities of clearness and candor.

We may have an opportunity of briefly alluding to some of these papers in our Summary; but they are practicable subjects for popular analysis, although they form some of the most valuable contribu-

tions to the practical literature of the profession. They show, also, that he was as penetrative and efficient in regard to the operative department of practice as he was in those higher and more extended views, which, in enlarging the *science* of surgery, has tended to diminish, of course, the number of operations.

About the year 1785, John Hunter had invented his celebrated improvement in the treatment of a disease of the arteries called "Aneurism." It was a very simple deduction from observations on the state of the arteries; and although it was one of those inquiries which had been made the subject of experiments on living animals, it was one on which not the smallest light had been thrown by such investigations.

Mr. Hunter had found that, in addition to many other serious objections to an operation which had been usually performed for the relief of this disease—a giving way, or enlargement of a vessel (for it is sometimes one, sometimes the other)—a great cause of failure had been, that the ligature, which was placed round the tube, was too near the disease, and, in fact, involved a portion of the tube which was unsound. He accordingly proposed tying the artery a little further off, and thus substituted, for an operation which was extremely severe, very hazardous, and too commonly fatal, a comparatively short and simple proceeding, which, under *moderately favorable auspices*, is almost uniformly successful.

Like most other discoveries, accident and similarity of views had suggested similar proceedings to others, so that Continental surgeons were disposed to dispute the merit of the discovery in favor of Guillemeau, Gutani, Anel, Dessault, &c., as their views favored one

or other; but there can be no doubt that the immediate institution of the operation for the definite purposes to which it was applicable was due to John Hunter.

John Hunter's operation applied to the main artery supplying the lower extremity, and surgeons have since extended the operation to many other arteries. The first extension of it, however, occurred to Mr. Abernethy, who about this time—1797—placed a ligature on what is called the external iliac artery; and as he seldom touched any thing which he did not improve, he made an important modification in the mode of proceeding.

Subsequent experience, it is true, has in some measure rendered that improvement no longer necessary; yet, whenever circumstances arise which lead to any material disturbance of the artery from its situation, we apprehend the caution of Abernethy, in tying it in two places close to its connection with the surrounding parts, is a valuable condition.

He also sent, about this time, an ingenious paper to the Royal Society on certain small openings into the cavities of the heart. They are called the "Foramina of Thebesius," from an anatomist who particularly described them. This is to us one of the prettiest of his physiological contributions. The facts are stated with great simplicity, their relations to disease beautifully pointed out, and the inference from the whole very striking, as being in harmony with the facts whence it is deduced; Abernethy's idea being that the holes were for the purpose of obviating excessive repletion of the nutrient vessels of the heart by allowing them to relieve themselves by pouring a portion of their blood

through these holes into the general mass of the circulation. It could hardly, however, be made interesting to the general reader without going into the subject more than is suited to our present object.

In 1799, Abernethy's reputation had gone on rapidly increasing. His numerous pupils, too, had become the media for frequent consultations, in addition to those which arose from his own connection and reputation with the public.

He now moved from St. Mildred's Court, and took the house in Bedford Row. This was some time previous to October, 1799, the September of that year being the last time his name appears on the rate-book of St. Mildred's Court. He never again changed his professional residence. The move was an important step, but it was only the precursor to one still more interesting.

In the January of the following year, an event occurred which seldom fails to exert a greater influence on a man's future prospects and happiness than any other—this was no less than his marriage—of which we must say a few words in a separate chapter.

CHAPTER XIV.

HIS MARRIAGE.

"Ye solvers of enigmas—ye
Who deal in mystery—say
What's cried about in London streets,
And purchased every day.

"'Tis that which all, both great and small,
Are striving to obtain,
And yet, though common and quite cheap,
Is daily sought in vain."

OLD RIDDLE.

THERE are few subjects on which people are more agreed than the value of "good matches," neither do they seem to differ very widely as to what that phrase is intended to convey. Not that every body's *beau-idéal* implies identity of composition, but they are pretty well agreed as to the more essential elements.

But if we observe the different ways by which people seek to obtain a common object, we are puzzled to know how folks that set out in such various directions should ever arrive at the same point. The travelers are said, too, to provide themselves not unfrequently with various disguises, not only in dress and externals, but even in manners and sentiments, which they do not usually entertain. Thus we have heard of one who professed a great love of music, who scarcely had an idea of melody; of another who expressed an admiration of poets whom he had never read, or voted unmitigated bores. Others have been known to avow a perfect indifference to wealth who have had scarcely

an idea unmixed with an instinctive admiration of the *æs in presenti.*

We once heard a curious fellow say that he could marry any lady he liked, if he could only "bring himself to take the trouble;" and we thought how happy he would be if he could live on as good terms with his wife as he appeared to be on with himself. Some start with an apophthegm which they carry about like an amulet or charm, such as "No greater rogue than he who marries only for money, and no greater fool than he who marries only for love." Apophthegms, however, like many things in this world—MacIntoshes and umbrellas inclusive—are very apt to be left at home when most wanted.

We are not informed whether table-turning or mesmerism have yet discovered any prophylactics against the undoubted perils of an expedition in search of a partner.

We are unfortunately not sufficiently versed in these mysteries to know the "latest accounts," but, from the reputed effects of platinum and other metals, we should not be surprised to hear that a person well mesmerized would be found very clairvoyant of gold. We know not how far it is required to go to obtain the lofty insignia of so exalted a position as to become a professor, but it is said that "Professors" find gold without the necessity of going to the "diggings."

Table-turning, we hear, has not as yet been found successful. By shooting too much ahead of the slowly moving current of human affairs, it skipped over one generation, and thus recently entrapped an Irish gentleman of the "highest respectability" by giving a fortune to a lady too soon, it happening to be found still

in possession of its "right owner"—or, as the technical phrase is, "in expectation."

Many aspirants for wedlock have sundry misgivings about certain traditionary repulsions which are said to exist between love and poverty, and, uninfluenced by the charms of matrimony, think only of the possible consequences. Not a few, however, regard marriage too serious an affair for sport or speculation. They think it very difficult for mortals who know so little of themselves, to know much about other people, and that, though matches in rank and money are daily seen to be very practicable, yet that matches in mind are still as difficult as Dryden represented them—

> "Minds are so hardly match'd, that e'en the first,
> Though pair'd in Heaven, in Paradise were cursed."

People of this sort contemplate marriage in a very unpoetical manner. They have great faith that correct intention and common sense are the best guides; and, although they may not feel less transported with their prospects than other people, they are apt to remember that it is "transportation for life."

A great deal has been said of the marriage of Abernethy, and very much of it in proof of his eccentricity of character.

If, indeed, the routine which many adopt as the preliminaries of marriage be the symbol of wisdom in such matters, Mr. Abernethy's proceeding might not improperly be regarded as eccentric; but if a steady reliance on common sense on an occasion on which it is sometimes laid aside, and the employment of the highest qualities of the mind for the most important purposes be wise, we must, if we allege the eccentricity of Abernethy, concede to him the less equivocal merit

of practical wisdom. Himself a sensible and clever man, a great admirer of these properties in others, he was not very likely to ally himself to any lady who appeared deficient in such characteristics.

Abernethy had a very quick perception of character, and his profession afforded him ample opportunities for the exercise and the cultivation of this quality. He would not have been very likely to lay it aside on occasions similar to those on which he had been habitually called on to employ it. There are difficulties in getting at the details on such occasions too obvious to require the mention of them, and we can not, therefore, be understood as pledging ourselves for the accuracy of the version we are about to give of the matter, but we would not give even that if we had not good reason to believe it to be substantially true.

Miss Anne Threlfall was the daughter of a gentleman who had retired from business, and who, it appears, had been residing in the town or neighborhood of the far-famed Edmonton. This lady had been staying with some friends near London (at Putney, we believe), where Abernethy was visiting, and, as we have been informed, in his professional capacity.

He had there an opportunity of observing her kindness and attention, with which he was much gratified. But to these were added personal attractions of no common order, and lively lady-like and agreeable manners, which have been invariably appreciated by all who have had the pleasure of meeting Mrs. Abernethy.

The "situation" was not ill calculated to allow two clever people to form some opinion of each other, since they would meet under circumstances favorable to the exhibition of character. We shall have to deal with

the subject of manner by-and-by; and, whatever exceptions we may have to record, we may here observe, that no man could be more kind in his manner than Abernethy, and, at all events, he was pretty sure to be unaffected. He had always, too, a most sensitive appreciation of kindness to patients in others. Now, supposing his opinion formed, his resolution taken, there was still for Abernethy a difficulty: he was very shy, and extremely sensitive; wholly absorbed in teaching, studying, and practicing his profession, his rising ambition just grasping at success. How was resolution or opportunity to be found for the tardigrade, time-consuming progress of a regular siege? But we suspect that "shyness" was the real Rubicon he felt a difficulty in passing. Common sense said, you are about to ask a lady to intrust her happiness for life to you. Conscience said it was a great deal to ask, and timidity was equally afraid to make the request or to brook a refusal. Surely it was a question not to be answered, as he used to say, "off-hand."

Should not some time be given for consideration? Now a short note would cut the Gordian knot of all these difficulties, and this was the course he adopted. He wrote a note expressive of his wishes, pleading the nature and variety of his occupations in apology for the method of making them known, and requesting the lady to take a fortnight to consider of her reply. We are not sure that something might not have been said in deprecation of the time wasted in too much "dangling" on these occasions. Be this as it may, as the world knows, the request was successful.

The marriage took place accordingly in the parish church of All Saints, Edmonton, on the 9th of January, 1800, and is thus entered in the Register:

"John Abernethy, Bachelor, of the Parish of St. Andrew's, Holborn, to Anne Threlfall, of this Parish, Spinster, were married in this Church by license, the 9th day of January, 1800, by me,

"D. Warren, *Vicar.*

"This marriage was solemnized between us:

"John Abernethy,
"Anne Threlfall.

"In the presence of

"William Patten, J. Hodgson,
"William Hodgson, Mary Threlfall,
"Charlotte Hodgson."

As we have said, we believe the foregoing is substantially the correct version of Mr. Abernethy's marriage; but if there be any inaccuracy, this is at least certain, that on this occasion he secured a partner for life every way worthy of him—a lady who to personal beauty added those social and moral excellences which combine to form a superior woman, and one to whom even such a man as Abernethy could look up with equal respect and affection, as the wife, the mother, and the friend.

If we forbear to enlarge on this subject—if we forego any particular mention of the reverence in which Abernethy's memory is held, and other evidences of the superior cast of mind to which he was so long and so happily united—we need only say that Mrs. Abernethy is still living, and well enough, we trust, to look back with pleasure on a retrospect such as, perhaps, comparatively few have been permitted to enjoy, and with enough of her characteristic kindness to excuse the few observations in which we have ventured to indulge.

One circumstance on the occasion of his marriage is very characteristic of him, namely, his not allowing it to interrupt, even for a day, a duty with which he

rarely suffered any thing to interfere, namely, the Lecture at the hospital.

Many years after this, I met him coming into the hospital one day, a little before two (the hour of lecture), and seeing him rather smartly dressed, with a white waistcoat, I said,

"You are very gay to-day, Sir?"

"Ay," said he; "one of the girls was married this morning."

"Indeed, Sir," I said. "You should have given yourself a holiday on such an occasion, and not come down to lecture."

"Nay," returned he. "Egad! I came down to lecture the day I was married myself!"

On another occasion, I recollect his being sent for to a case just before lecture. The case was close in the neighborhood, and it being a question of time, he hesitated a little; but being pressed to go, he started off. He had, however, hardly passed the gates of the hospital before the clock struck two, when all at once he said, "No, I'll be —— if I do!" and returned to the lecture-room.

CHAPTER XV.

OF ABERNETHY'S BOOK ON "THE CONSTITUTIONAL ORIGIN OF LOCAL DISEASES," OTHERWISE "MY BOOK."

"From the barr'd Vizor of Antiquity
Reflected shines the Eternal light of Truth
As from a mirror; all the means of action,
The shapeless masses, the materials
Are every where around us. What we need
Is the celestial fire, to change the flint
Into transparent crystal bright as fair."

LONGFELLOW'S "SPANISH STUDENT."

IN all that Abernethy had hitherto published, it was easy to perceive that, although he was carefully examining the prevailing opinions and practice of the day, he was emphatically one of those independent thinkers who had power to overlay the most established conventionalisms with opinions of his own; that although hitherto his publications had related to particular diseases or accidents, and which were held as within the ordinary province of the surgeon, he was shadowing forth *principles*—views which, if they were true, must necessarily have a much wider range of application than to the particular cases which it had been his object to consider. In 1804, he had sufficiently matured his general views to think it right to publish them; and this he did in his book on the Constitutional Origin of Local Diseases, popularly known as the "My Book," to which he not unfrequently referred his patients for a more detailed account of his views than he could find time to give in the consulting room. When

we reflect that diseases consist entirely of altered conditions in the structure or function in some part of the body, a formal announcement that they must be greatly influenced by the organs on which the whole body depends for its nutrition seems to have so much the aspect of an obvious truism, that we scarcely know whether most to wonder at so formal an announcement of it having been necessary, or the astonishing number and variety of the reservations with which it has been admitted.

But, strange as this may appear, and although all the facts have been before the eyes of man for ages, nay, though their relations have been *more or less felt* and acknowledged in cases usually submitted to the physician, we venture to say that nothing like an attention at all adequate to their importance was obtained for them in the practice of physic, and scarcely any at all in surgery, until the time of Abernethy.

At the present time, a great deal has been done to establish, by the most clear and indisputable demonstration, the practical usefulness and necessity of the principles to which Abernethy conducted us in the cure of diseases, whether medical or surgical. Still, these principles are much neglected, much misunderstood, or so imperfectly carried out as to excite, even in many of the public, expressions of astonishment. It is, indeed, not too much to assert that even in those cases in which their successful application has been most incontestably exemplified, his principles are fairly carried out on comparatively few occasions.

The causes of all this are, we fear, too clear; the removal of them is more difficult. We may possibly discuss both in the sequel.

Instead of the exquisite simplicity and clearness of Abernethy's views, so far as he had gone, being carefully studied, and with a view to the *extension* of them beyond those limits which his time, his opportunities, and his caution had assigned to them—instead of examining into and testing the practical value of the deducible, and, in fact, necessary sequences, on views of which he had demonstrated the truth and value, practice appears to have taken a retrograde movement.

He who would advance even as far as Abernethy is in danger of being regarded as crotchety or peculiar, while any who should strive, by a more careful examination of his views, to render their practical application more definite and analytical, must be prepared to be looked on simply as an enthusiast.

This has, indeed, been the case more or less in all sciences from the earliest times. The facts which conduct us to a true interpretation of the laws in obedience to which they occur, have been always before us; the very same facts on which, as Professor Whewell* observes, we have raised the stately structure of modern sciences. Butler† had before made the same remark. Poets too, as even the motto to our chapter shows, have held the same sentiment; what every body *knows*, how few *consider!* Neither Copernicus nor Galileo altered or invented facts. Those they *observed!* what they *discovered* were conclusions interpreting their true relations. Bodies fell to the earth, and the crystal rain-drop had shown the composite nature of light in the beautiful colors and wonderful illustrations of the rainbow ages before Newton's discov-

* "History of the Inductive Sciences."

† Butler's "Analogy."

ery showed the true explanation of the one, and the great law exemplified in the other.

The object of "the Book" is to set forth the great fact of the reciprocal influence existing between the nervous system and the digestive organs, and the power they mutually exert in the causation and cure of diseases; and this, whether the diseases originate in disturbance primarily directed to the brain or any other portion of the nervous system, or to the digestive organs; whether the result of accident, such as mechanical injury, or other local manifestations more commonly termed disease. In the book before us we shall find an ample refutation of many misconstructions and misapprehensions of Abernethy's views; misconstructions which have tended to obscure principles which were remarkable for their simplicity and truthfulness; to impede the beneficial application of them in a manner which has been equally injurious to the public and the profession, and which have impressed on mankind a very inadequate idea of the obligations due to the distinguished author. His views were said to be theoretical and exaggerated, while they were the *strictly* deducible conclusions from facts; and so far from their pervading power in the causation and cure of disease having been exaggerated, the onward study of them only serves, by the discovery of more multiplied and refined applications of them, to fill in with additional illustrations the accurate outline which he has so truthfully drawn. He never wrests a fact to a conclusion to which it does not legitimately lead. In virtue of that suggestive quality of his mind (so important an aid in philosophical inquiries), he occasionally, in all his writings, puts forth suppositions, but these only as

questions, the next in the order of inquiry, and these he asks of nature alone.

Mr. Hunter had been the first in this country to make the true use of anatomy—I mean in the sense that while it was no doubt the basis of our investigation into the functions or uses of parts, still it was only one of an extensive series of inquiries. He had examined the dead with no purpose more earnestly in his mind than to assist him in his endeavors to *observe* the living—examined *parts* that he might better understand the whole. He had made himself familiar with the economy of animals, and generally with the habits of organized beings, whether animal or vegetable, that he might know their relations to each other, and that of the whole to the phenomena, habits, and laws of the Human economy. As he neglected no source whence it had been customary to seek for information, so, notwithstanding his fondness for animals, he made various experiments on living creatures. But while these experiments afford additional proofs of the poverty, so to speak, of this plan of investigation, they impress on us the truth of Sir Charles Bell's assertion, that physiology is essentially a science of observation. We have only to place Mr. Hunter's observations and experiments here referred to in juxtaposition, in order to bring out in high relief the great meaning and value of the one, and the unnecessary or inconclusive character of the other. He also examined the various facts presented to him in the living body with unequaled patience and circumspection.

Among others, he had paid particular attention to those which exemplify that vivid, that watchful connection which exists between various parts and organs,

and by which impressions or sensations excited in any one part are telegraphed, as it were, with the swiftness of lightning, to any or all of the organs of the body; facts which may be observed by any body—by no one better, and by few so well, as patients themselves. To take a common example: every body is familiar with the fact that certain disturbances of the stomach produce pain or other annoyance to the head. Every one is equally familiar with another fact, that there is very often no pain, and sometimes no sensation of annoyance in the stomach, so that were it not from an innumerable succession of such conditions, in accordance with particular influences on the stomach, we should, from the feeling of the stomach only, never dream of the cause being in that organ. Now about these simple facts hang not only the most practical of all John Hunter's observations, not only the most valuable of Mr. Abernethy's, but, as far as we can see, the phenomena through a philosophical examination of which we shall still most auspiciously seek to extend our practical knowledge of disease. We see here just that which Mr. Hunter had asserted, namely, "that the organ secondarily affected (in this case, the head) sometimes appeared to suffer more than the organ to which the disturbance had first been directed."

He observed, also, that the connection thus manifested existed equally between all other parts and organs; that, although it might be exemplified in different forms, still the association it implied was indisputable. He adopted the usual terms by which these phenomena had been designated. Parts were said to sympathize with each other, and no term could be better, as it simply expressed the fact of associated

disturbance or suffering. It is true the *facts* were not at all new; they had always existed; nay, they had been observed and commented on by many persons ever since the time of Hippocrates; and, if I were to mention the whole of them, there is scarcely one which would not strike some one or other as just as familiar an acquaintance as a headache from disturbance of the stomach. Mr. Hunter, however, had a kind of instinctive idea of the yet unseen value of the clew thus afforded to the investigation of disease, and he observed these facts with a greater attention to all their details, than any one, or all who had preceded him.

Hunter's observations on the subject in his lectures were extremely numerous, and elaborate even to tediousness; Abernethy, who used to give us a very humorous description of some of the audiences of John Hunter on these occasions, was accustomed to say, "That the more humorous and lively part of the audience would be tittering, the more sober and unexcitable quietly dozing into a nap, while the studious and penetrative few appeared to be seriously impressed with the value of Mr. Hunter's observations and inquiries." Mr. Cline, an honored name in our profession, and one who, had he lived in later times, would probably have been as distinguished in advancing science as he was for his practical excellence, significantly expressed his impressions of the future importance of the inquiries in which Hunter was engaged. Addressing Mr. Clift after one of the lectures, he said,

"Ah! Mr. Clift, we must all go to school again."

Mr. Abernethy carefully treasured up and pondered on what he heard. He placed himself as much as he could near Mr. Hunter, and took every pains which his

time and occupations allowed thoroughly to understand him; and with his characteristic tendency to simplification said, "Well, what Mr. Hunter tells us resolves itself into this, that the whole body sympathizes with all its parts."

His perceptivity, naturally rapid, was evidently employed in observing the bearing of this axiom on the facts of disease. The digestive organs, which, if we extend the meaning to all those engaged in assimilating our food, compose nearly the whole viscera of the body, could not escape his attention, nor, indeed, fail to be regarded in all experimental investigations of any *one organ*. Accordingly, we have seen a very important application of the relations between organs engaged in concurrent functions in his paper on the skin and lungs, in which, from physiological evidences of their being engaged in a common function, and the sympathetic association it rendered necessary, he had observed relations of great moment, and pointed out the practical bearing they *must* have on consumption. He had, however, been paying attention for some time to the digestive functions, when his intimate friend, Mr. Boodle, of Ongar, in Essex, gave a fresh stimulus to his exertions. This gentleman requested him to investigate the functions and conditions of the liver in various nervous diseases, as also in certain affections of the lungs, which had appeared to him, Mr. Boodle, to originate in the former organ; Mr. Abernethy says, "I soon perceived that the subject was of the highest consequence in the practice of surgery, for local diseases disturb the functions of the digestive organs, and conversely a deranged state of those organs, either occurring in consequence of such sympathy, or *existing*

previously, materially affects the progress of local complaints."

At the very commencement he hits on a great cause of evil, and boldly assails one of the most mischievous of all conventionalisms. "The division of medicine and surgery," he observes, "is mischievous, as directing the attention of the two orders of practitioners too exclusively to the diseases usually allotted to them." There is, indeed, no exaggerating the evils of that partial mode of investigation to which such a custom almost necessarily leads. We fall into error, not because of the difficulty of the subject, but because we never can, by looking at one set of diseased processes only, learn the whole of the facts belonging to the subject. It was just this that prevented Fordyce from arriving at correct views of fever. Nothing could be more excellent than the way he began to consider it; but he hardly begins before he tells us that he intends to exclude those febrile affections which fall under the care of surgeons. Now, in doing this, he at once abandoned a series of facts which are absolutely essential to the investigation. It must be obvious, on a moment's reflection, that if a particular condition of a part have a relation to the whole body, the study of one without the other, or even if both be taken up by different persons, nothing but the most imperfect views can result. A jury, still more a judge, might in some cases guess from partial evidence the issue of a legal investigation, but who ever heard of either determining to examine a portion only of that evidence? Yet it is not too much to say, that hardly any legal question can be so recondite as many questions on physiology. The nature of the case is always more or less obscured by a

number and variety of interfering circumstances. Diseases may be regarded, in fact, as nothing more than natural laws, developed under more or less complicated circumstances of interference.

Lord Bacon had warned all investigators of nature of the danger of attending only to a portion of the facts —it had been one of the great bars to progress of knowledge in general. I regret to say that it still continues the bane of almost all medical inquiries.

Abernethy's inference from this mutilated sort of investigation is too true when he observes that "the connection of all local diseases with the state of the constitution has obtained little notice," whereas the truth is that "no part of an animal body can be considerably disordered without affecting the whole system." Now here Mr. Abernethy claims—what? simply this: he claims for *function*—that is, the *various offices fulfilled* by the several parts and organs of the body—that which Cuvier has so beautifully insisted on, and which our own Owen has so instructively exemplified in regard to structure or formation, namely, a necessary relation between the whole and all its parts.

In speaking of affections of the nervous system, Abernethy observes that the brain may be affected by the part injured, and that then it may affect the various organs by a "reflected" operation; but that, whatever *may be the mode* (thus carefully separating the opinion from the fact), "the fact is indisputable." He adds that it may affect some organs more than others, and thus give a character or name to a disease. For example, it might affect the liver, we will say, when the name which would be given would probably be

expressive of what was a secondary circumstance, namely, a disturbance of the liver. This does not so frequently happen, perhaps, nor so mischievously, in relation to local injuries, but in other cases it is the cause of a great deal of erroneous and misleading nomenclature.

As we have seen, it often occurs that, when the organs of the body are disordered, the more salient "symptoms," perhaps the *whole* of those *observed*, are referred to a secondarily affected organ, and the disease is named from that circumstance. The too frequent result is, that attention is exclusively directed to that organ, while the *cause*, being elsewhere, and where there are no symptoms, wholly escapes observation.

This is a very important branch of inquiry; and as it closely connects what Abernethy left us with what appears to us to be one of the next things to be clearly made out, we will endeavor to illustrate it.

Suppose a person meets with a severe injury—a cut, bruise, fracture, or any thing that we have seen a hundred times before, and instead of being succeeded by the *usual* processes of repair, it be followed by some others; the simple expression of the fact is, that something has interfered with the *usual* mode and progress of repair, and as former experience had shown us that there was nothing in the nature of the injury to account for this, we are naturally led to look for the explanation of it in the state of the individual. But if the unusual appearance be one which we have agreed to call "Erysipelas," and we are accustomed to see long papers written upon this appearance as a distinct disease, we acquire a tendency, as every day's experi-

ence shows, to regard it as a kind of abstraction, or as an entity—something composed of precise and definite relations, contained in that particular description of case. Yet these relations may not be in any two successive cases exactly alike. Again, all of them may be subordinate to some more general character, probably a relation without which we can not readily explain the phenomena, but at which we can not arrive because we have not comprehended a sufficient number of facts in our inquiry to include it.

"Erysipelas" is nothing more than a natural law obscured, because, as we have just hinted, it is developed under circumstances of interference (from disordered conditions of the economy) which distort the natural features of the law, modify its effects, or which may prevent altogether its full development. But now, if we study it by the means afforded by the various connected links which other varieties of disease furnish, the ascertainment of the real relations becomes comparatively easy; and we find that while there are certain general relations which belong to all cases, there are certain others which may, in a given succession of cases, be identical, or in no two exactly the same.

Partial investigations, leading, of course, to erroneous views, are sure to entail on us a defective nomenclature, and then the two do very materially contribute to continue the fallacies of each other. We may have an affection of a lung—perhaps the cause may not be in the chest at all, although the lung may be inflamed or otherwise; but we call it pneumonia, or pleuritis, or some other name which simply refers to what is happening to the part; but all these have reference only to effects; they are extremely defective,

therefore, as comprehending only a portion of the *nature*, and having no reference whatever to the *seat* of the *cause* of the malady. The consequences of all this may not be *necessarily* mischievous, but they are so lamentably common as to continue to form a very large sharge of the routine practice. The cause is elsewhere, but the remedies are directed to the chest —that is, they are, in such cases, applied to effects, not causes. If we must retain names so defective, it would be very practicable to combine them with something which should indicate that we had at least *looked* for the cause. This would, at all events, encourage a habit of looking beyond mere symptoms, and carry us at least one link higher up the chain of causation.

Abernethy, in demonstrating the connection between local disease or injury and general disturbance, judiciously takes cases where the relation was most unequivocal—that is, where the local disturbance consisted of a mechanical injury—such as in a gentleman who had undergone an operation, in another who had met with a bad fracture of his leg. In order to amplify his illustrations of the connection between the brain and all parts with the digestive organs, he draws them from all sorts of sources—from diseases the most severe and dangerous as well as from affections which are regarded as most common or trivial—from the last stages of cancer and serious diseases of the loins, to the common disturbances of teething in children—sources which, from their apparent dissimilarity, confer, of course, the strongest force on testimony in which they combine.

His delineation of the features by which disorders of the digestive organs may be generally detected is remarkably simple, clear, and truthful.

Every word has the inestimable value also of being alike intelligible to the public and the profession. His statement is interspersed with remarks of great value, which, we trust, have not passed away altogether unimproved; such as, that he had observed disorder of the digestive organs produce states of health "similar to those" said to be characteristic of the absorption of particular poisons—a most recondite subject, but one the obscurity of which has entirely, as we think, resulted from the determination to regard the diseases to which it refers as abstractions, and to investigate them under the impenetrable shadow of preconceived conjectures.

Almost every thing, he remarks, has received more or less confirmation from the experience of the whole civilized world. There are few things in his observations more interesting than the emphatic way in which they ignore the vulgar impression that he referred all diseases to the stomach. In the whole round of scientific literature, it would be difficult to find, in the same space, so complete or comprehensive a view of *all* those which we usually term the digestive organs.

Abernethy was very far from any such narrow views, while, in regard to other organs, to which some of our most distinguished men had paid particular attention, it is not too much to say that, more clear and precise than Curry, and equally careful with Hunter, not less painstaking than our excellent Prout, he is more *practically* penetrating and comprehensive on this subject than any of them. But as to the charge of exclusive reference to the stomach, we shall easily see there was no foundation for it.

In speaking of the reciprocal affections of the brain and the digestive organs, he says, "The stomach is

said to be chiefly concerned in producing these effects, but the cause of the sympathetic affection is probably more general."—Page 48. He then goes on to exemplify causes acting on the *Liver*, and so forth.—Page 49.

He distinctly contends that other of the chylopoietic organs may disturb the brain as well as the stomach. Again, at page 52, he repeats a similar opinion, and especially adds, that when the alimentary canal is affected, we can never be sure that it is *primarily so.*

He also says, at page 53, that in some cases the disorder of the digestive organs is dependent on disease of the brain.

I have alluded to these passages because nothing is more unjust to Abernethy than to suppose that he attributed every thing to the stomach, or restricted his attention to that or any other organ. Such a misapprehension also tends indefinitely to impede the practical application of his principles, and to deprive us of the advantages which are so constantly derived from them.

This is so important, that it may be useful to consider a little the circumstances which may have thus misled the public, and, we fear, not unfrequently the profession also, in the interpretation of Abernethy's views.

In conducting the treatment of diseases of the digestive organs, whatever organ we may desire to influence, either by inducing tranquillity of the nervous system, or by the selection of food appropriate to the actual condition of that organ, the stomach is necessarily a primary consideration.

The reasons for this are sufficiently obvious, but

have not, perhaps, been always adequately regarded. Digestion is, on the whole, a manufacture, so to speak, of a raw material (food) into a fluid (blood) which is to be absolutely adapted to purposes for which it is designed. This is effected, not by one, but by several organs, which each produce their respective changes in the materials submitted to them. If we desire, therefore, to adapt the work to any organ which is engaged in this process, however remote it may be from the stomach, which, with the teeth and other auxiliaries, execute the first process in the manufacture, it is quite clear that we must begin with the first process to which we subject the said raw material or food. Say that, in a machine for the manufacture of cloth, the spinning apparatus were out of order, we must begin by giving out a less quantity of wool to the carding-machine, or whatever represented the first process, because, having once delivered the wrong quantity or quality, we have no means of recalling it, and we should only still further derange the defective machinery.

So in the body; the liver, kidney, and other organs, not excepting the lungs and skin—their work must all bear relation to the quantity or quality of raw material, whether their function be the manufacture of the new product, or the rejection of that which is useless. So that, supposing there were no other reason, no other than this mechanical relation (which is very far from the real state of the case), still we must *de facto* begin with the stomach, even where we entertain no idea of any special derangement of that organ. The stomach, however, is very important in another sense, and has a power of indicating the necessity of

attention to those points which I have endeavored to illustrate by the homely similitude of a manufacture.

Wherever impressions first act on the body, Nature has placed a most vigilant guard. This is variously managed in different cases; the result is the same, and, as it would appear, the final cause also. In the eye there is the most beautiful contrivance for moderating the ingress of light, as also any abrupt increase of intensity. Fringed curtains are provided which can close with electrical celerity. Again, the aperture by which light is finally admitted into the eye is vividly contractile or expansive, as the occasion may require; then, again, there are various media of different densities, through the influence of which even the velocity of light undergoes practical retardation by repeated refractions; and, lastly, there are powers of sensual adaptation in the nerve with which the light is ultimately brought in contact more wonderful than all.

The ear, being likewise a portal for external impressions, is guarded with equal care. Not a single vibration of air can ever reach the nerve of the ear with the crude intensity (if I may use the expression) with which it is generated. Passing over preliminary apparatus, by which the vibrations of air are first collected, the impressions of sound are first received on the parchment of a little drum, which parchment can be relaxed or tightened with the quickness of thought, so as to modify the force of the impression. This impression is then, by means of a little chain of bones, conveyed across the drum, which is filled with air. It then reaches a portion of the ear in which are found very curious cavities and canals, of various forms, and taking different directions, and which, from the curi-

ous and complex arragement of the whole, is not inappropiately called the labyrinth. This is the mysterious seat of those nerves which convey impressions to the brain. There is, however, here, an arrangement more exquisite than any we have yet mentioned.

In these cavities and canals, which are themselves so small as to be not unfit objects for magnifying glasses, there are corresponding delicate sacs and tubes, and these are filled with a limpid fluid. On this delicate apparatus, so exquisitely calculated to modify any undue force of impression, the sensitive extremities of the auditory nerves are spread out, which convey impressions to the brain. We see, therefore, how carefully these portals of the body are guarded; arrangements equally conservative prevail throughout. We might show a similarly exquisite arrangement in the laws governing the mind, but that is not our present object. We have seen hitherto that, beautiful as the arrangement is for securing us against painful impressions, it has been in a great degree mechanical.

The stomach, however, is the portal to a vast series of important organs, and is protected by a phalanx of sentinels endowed with powers proportioned to the importance of the organ which they guard. There is little that falls within any idea which we can express by the term mechanical; every thing is subjected to an examination essentially sentient—to powers residing in the nerves, the *laws* and *operations* of which we can, with proper attention, trace out, but which exhibit powers demonstrative of an intensity and refinement of which our limited perceptions scarcely enable us to form a definite idea.

First, there is the olfactory nerve, between which and the stomach there is the most vivid sympathy.

Until our tastes become vitiated, the stomach seldom admits any thing of which the nose reports unfavorably. The sense of smell, even in the somewhat measured power possessed by man, is capable of detecting forms of matter so subtle as to be beyond our powers of imagination. Nothing which so plainly deals with "matter" impresses more strongly the immense range which must exist between the chemistry of life and that of the laboratory. We all know the extraordinary powers of musk. I have myself a small mass of odorous matter (a Goa ball), which, from the circumstances under which it came into my possession, must have been emitting the odor for little less than a century. It has been exposed to air, is covered by a film of gold (I believe), and is in no respect visibly changed, and for the last thirty years not detectably in weight, and yet at this moment it emits as strong an odor of musk as ever. How exquisitely subtle must be the matter thus emitted, or how still more wonderful if it merely so modifies the atoms of air in its neighborhood as to produce odor. We have no intellectual powers which enable us to realize a conception of such infinite tenuity of matter, yet the sense of smell instantly detects its presence.

Next come the nerves of the tongue; and here again, in natural conditions, there is a constant harmony between them and the stomach—that to which the taste readily gives admission being, in undisturbed conditions of the economy, some guarantee that it is innoxious; but what these functions are to the stomach, the stomach is to the other organs. In the first place, in natural conditions it usually at once rejects any noxious material which, from being disguised or from any

other circumstances, may have eluded the vigilance of those sentinels I have mentioned; but it has a vivid sympathy with every organ in the body. If any thing deleterious be once admitted, it has to go through various processes which may render it a source of indefinite disturbance; therefore, if any organ in the series of the blood-manufacture be materially disturbed—that is, as to be disabled—the stomach usually refuses food, because there is no other way of stopping the mischief. Illustrations of this occur in many disorders of the kidney, other portions of the alimentary canal, and other parts of the liver.

No doubt the stomach is therefore a most important organ; but to suppose that it is therefore always the seat of disorder, is not only a most mischievous error, but a complete blind to its most beautiful and instructive relations, and as opposite to Mr. Abernethy's views as the most narrow can be to the most comprehensive. Proceeding with his illustrations, Mr. Abernethy cites a number of most instructive cases, in which were various nervous affections of the most serious character, including palsy—affections which we are accustomed to refer with too much truth to organic disease or mechanical pressure on the brain or spinal marrow, but which, in the cases cited, depended on disorder of the digestive organs.

It is impossible to exaggerate the interest or importance of these cases, not only from the fact that they almost certainly would have led to organic disease, but also for the value of that practical discrimination which they exemplify. Again, the very treatment which would have been proper, which had sometimes been begun, and which was not inappropriate to cases of

organic disease with which the symptoms were in part identical, would have inevitably, in the cases in question, only served to exasperate the very conditions they were intended to relieve, and to hasten those processes against which they were intended to guard.

No one can understand the force of these cases without recollecting the intense difficulty of ascertaining that point at which disorder ceases to be merely functional, and at which organic disease begins. This is, of all things, the most difficult to determine in the whole circle of physiological inquiry.

The symptoms alone are absolutely useless in any case of real difficulty; of that Abernethy was well aware, and he did much to guard us against the error into which a reliance on them was calculated to lead. He knew that organs which were diseased would sometimes afford indications not distinguishable from those of health; and that, conversely, organs essentially sound would sometimes only afford those signs which were indicative of disorder. We have, we trust, made some little progress in this very difficult branch of inquiry; and although it is true that organic disease not unfrequently escapes detection during life, yet, so far as we have observed, it is only in those cases in which there is, notwithstanding the daily lessons of experience, an improper reliance on what are called the symptoms. We assert, without the least hesitation, that organic diseases should seldom elude detection where the investigation is sufficiently comprehensive; but it must include all the facts of the case, the early history, and such circumstances which, however remote, have been over and over again proved to be capable of exerting an influence on the body—an investigation which, how-

ever vainly pleaded for in medical science, however regarded as too exacting, involves nothing more in principle than is required as a matter of course in all other scientific investigations.

When these conditions are observed, it is very rarely that we can not detect organic affections in organs in which there may be no *present* symptoms. In relation to the *extent* to which they may be affected, it is true we have yet much to learn; still, if cases be judged of, not by the history *merely*, nor by the symptoms *merely*, but by both in conjunction, and if to these be added a careful observation of the *amount* of work that the organs are separately or collectively doing, as *compared with their natural proportions*, together with a careful estimate of that which the actions of any visible disease may be eliminating from the body, then, indeed, we have good ground for hope that means will be opened to us of distinguishing more accurately various states of the system, and additional principles and powers disclosed of readjusting the disturbed balance of the various functions, which is the essential element of disease.

CHAPTER XVI.

"MY BOOK" CONTINUED.

"La première chose qui s'offre à l'Homme quand il se regarde, c'est son corps. Mais pour comprendre ce qu'elle est, il faut qu'il la compare avec tout ce qui est au-dessus de lui, et tout ce qui est au-dessous, afin de reconnoître ses justes bornes."—PASCAL, PENSÉES; NATURE DES HOMMES, vol. ii., p. 57.

ABERNETHY, in impressing any anatomical fact, would sometimes say that we carried about with us in our own

bodies excellent means of refreshing our impressions on many points of anatomy; but we may say this in a much more extensive sense with regard to the interpretation of that for which anatomy is alone useful, namely, the uses or functions of the body. It would be very possible for any observant person who was moderately versed in the ordinary principles of correct reasoning to detect many defects in medical investigations and practice, in the correction of which many of Abernethy's practical contributions consisted; but the mind, restlessly impatient to arrive at conclusions, often overlooks the most important facts, and infers consequences from the evidence of the eye or other senses which can alone be safely trusted to the intellect. Nothing can exceed the mischief of this in serious matters, nor the absurdity of it, when we *think a while.*

We should hardly refrain from laughter if we saw a man try to see with the point of his nose, or endeavor to examine the odor of a rose by his ear, or to listen with his eye; yet this is not a whit more absurd than to try to deduce conclusions from the impressions furnished by the eye which can alone be afforded by the rational faculty. Nothing is more common than this sort of fallacy, nothing more easy than its correction; but then people must bestow at least a little of that time on their highest faculties which they so lavishly expend on inferior powers. How much time we consume, for example, in the study of various languages —those instruments for the communication of ideas— as compared with that bestowed on the collecting and marshaling of ideas themselves, which is little better than grasping at the shadow and losing the substance, or, to use a humorous illustration, like a friend of our

own, who, having a new dog, sent his servant forthwith to purchase sundry articles for him, in the shape of kennel, chains, engraved collars, and food, all of which, at some expense, he safely accomplished to his master's satisfaction, expressing his sorrow, at the same time, for having accidentally lost the dog!

It is curious, however, to observe how the real business of the human mind is shadowed forth in the very abuses of its powers; nothing so bad but it is charged with a certain quantity of good; no error so great but it carries with it the element of its own correction. The mind, in its greatest aberrations, is followed by the shadow of its real duty, which, as it were, waits on the time when clearer views shall burst on it. Nothing shows the real tendencies of mind more than its restless desire to arrive at *some* conclusion, *some* tangible evidence of its highest functions. It is the impulse of this instinct—the ungoverned abuse of a high faculty, impatient for illegitimate fruition, which lies at the bottom of much false reasoning, and which blinds men, even of great power, to obstacles which are luminously evident to the most ordinary capacity. Important as the next series of illustrations cited by Abernethy are, the conclusions he deduced from them were the necessary sequences of clear and correct reasoning on familiar and established facts.

The illustrations in question were those afforded by various cases of injuries of the head, in which certain consequences, however exceptional they may be, are too commonly referred to the abstract nature of the injury. We *see* that a man has a blow; we *see* that he does not recover in the usual way in which we have known many others recover; but we do not perhaps

consider, that if a similar, nay, perhaps an identical force produces very different effects in different cases, the cause will probably not be in the nature or direction of the force so much as the condition of the body. Now the value of these cases of Abernethy's consists, first, in impressing the influence of this condition as modifying—in other words, *sustaining*—the disturbance consequent on injuries (in their origin) purely mechanical; and, secondly, in showing that in the cases in question *that condition* depended on a disordered state of the digestive organs. We hardly know any cases more valuable than those in question. When a patient receives a blow, and the *immediate* consequences having subsided, there still remains any impairment of sense or motion, the most usual thing, and no doubt, very often, the true view, is to refer it all to lesion of nervous structure. It is, therefore, of the highest consequence to know the facts of these cases; they not only prevent the hasty institution of treatment which would be injurious—not only secure the patient from being abandoned in despair, but supply, at the same time, the clews to a rational treatment and the hope of a favorable issue.

There can now be few observant surgeons who have not met with cases in illustration of these circumstances, and yet I know not to whom the perusal of Mr. Abernethy's cases might not be useful. It is not without regret that I forego transcribing at least one of them, forgetful how impossible it is to do Abernethy full justice in a work intended for all readers. In his "Book," the cases in question begin at page 97, and occupy but a few pages.

The next class of cases, from which Abernethy il-

lustrates the prevailing influence of the digestive organs, receives additional importance from the *imperfect* manner in which the phenomena have been interpreted in a vast variety of diseases, like small-pox and others, ascribed to the action of particular poisons. We may possibly have an opportunity of saying something more on this subject, but we may remark that when any disease has been presented to the physician or surgeon, supposed to be the result of specific poisons, it is just the last case in which any special attention is paid to the digestive organs. Now Abernethy observed that disorders of the digestive organs would sometimes *produce* diseases resembling maladies said to result from specific poisons; this is about the first indication or hint, which, duly carried out by an advancing science, will, we trust, ere long demonstrate what to *us* has long appeared only part of a general law; of this we may by-and-by say a little more, when we endeavor to show the small quantity of truth which there is mixed with some of the prevailing errors, and the dependence they have for their occasional success for blundering, as it were, on small portions of the principles enunciated by Abernethy.

In the mean time, we may refer to the illustration afforded by small-pox of the remarkable influence of the digestive organs in diseases called specific. We adduce this, because it is one which is popularly familiar, and a disease that, had it been studied under any but one particular phase, would have proved, of all others, the most instructive. There is no malady, under certain circumstances, more extensively fatal.

In the Spanish conquest in America — a history scarcely less interesting in a medical than in a moral

point of view—it seems that not all the cruelties of the Spaniards were more destructive than the small-pox. In less than a century after the arrival of Columbus, it was computed that it had destroyed more than half the population; and in one year (1590), it so spread along the coast of Peru that it swept away nearly the whole of the Indians, the Mulattoes, and the Mestizoes in the cities of Potosi and De la Hay.*

As is well known, before the discovery of vaccination, persons were *inoculated* with the small-pox, because it was found that the disease could *be thus rendered* comparatively harmless, while if it was taken naturally, as it was termed, it was always serious, and too frequently extremely fatal. The preparation for inoculation consisted of *measures addressed to the digestive organs;* now the effect may be judged of by this fact: Inoculation was at first violently opposed, and in reply to the alleged safety of it, an opponent wrote to prove that *one* in *one* hundred and eighty-two had died of it. I wish we could say so of many other diseases.

That such persons had nevertheless the genuine malady, was proved by the fact that they were capable of infecting others, unprepared, with the disease in its most malignant form. But our notions of the mode in which the laws of the animal economy deal with injurious influences of this kind are mischievously conventional. What quantities, for example, of mercury, in its different forms, have been administered in almost all diseases; and yet unquestionably there is a great deal of false reasoning in regard to this poison. Effects are attributed to it *as mercury* which

* Clench's History. Letter from Ch. Uslano to Gonsalvo de Solano, July, 1590.

only belong to it in its general character of an injurious agent. All the specific effects of it, most of which are become popularly familiar, may occur without any mercury at all. We have seen them induced by aloes, by scammony; and in a case where no medicine had been given, and where the only detectable poison was one which was to be sure bad enough, an enormously loaded liver.

We are obliged to say but little here in connection with this subject. Abernethy's cases were very important in relation to the influence of the digestive organs, although he did not see the generalization to which, as it appears to us, they help to conduct the pathologist. The subject is too extensive for discussion here; we will attempt something of a popular view of it when we endeavor to explain, in a subsequent part of the volume, the fallacy to which we have already referred.

Abernethy next adduces various illustrations from cases of other diseases, as indurations, tumors, carbuncles, scrofulous affections, and others, in proof of the dependence of a "numerous and dissimilar progeny" of so-called local diseases on that fruitful parent, disorder of the digestive organs. Of one of the most interesting and remarkable cases of tumor, Mr. Abernethy did not live to see the termination. It was of a lady who consulted him previous to the proposed infliction of an operation. She had been recommended by my father, in the country, to consult Abernethy before submitting to it—because he disapproved of it, as did Abernethy, not because they doubted of the nature of the disease, but because it was not confined to the part on which it was proposed to operate.

The lady used to call on Abernethy when she came to town, and after his death she came to me, as she said, just to report her condition. She had, at times, various disturbances of her digestive organs, but always from some imprudence, for, although habitually very simple in her habits, she would be sometimes careless or forgetful.

She died at a very advanced age—between seventy and eighty—but there had been no return of the disease for which she had originally consulted Abernethy, nor had she undergone any operation. It is a significant circumstance, too, that she had a sister who died of cancer.

The whole of the cases are, however, scarcely less valuable. In the fifth section he treats of disorders of parts having continuity of surface with the alimentary canal, certain affections of the nose, of the eye, and of the gullet or œsophagus. His observations on the latter are especially valuable. They strike at that meddling practice which is too common in the treatment of diseases of these parts. Many of us have endeavored to induce surgeons, without neglecting either, to depend less on manipulatory proceedings and more on measures directed to the general health in such cases, as producing effects which are not to be obtained by other means; but, if we are to judge from the medical periodicals, without much success, so inveterate is the habit of imagining that, whatever the causes of disease may be, if the *results* be but *mechanical*, mechanical means can alone be applicable. Public attention and the perusal of such cases as those of Abernethy can alone correct these errors.

Lastly, he describes the results of his dissections as

bearing on the whole subject. Here he shows that while disordered function may take place coincidentally with or as a consequence of change of structure, yet that such change, so *as to afford visible or detectable departures* from natural appearances, is by no means necessary, in *organs which, during life*, had afforded the most incontrovertible evidence of impaired function. He also shows that disease has terminated in *disorder* which had its original seat in the digestive organs; and again, that in cases where the cause of death had been in the abrogated *function* of the brain, he found no actual *disease* in that organ, but in the *abdominal viscera*. He very justly observes that the conclusions he has drawn can not be either ascertained or disproved by anatomical evidence *alone*. He mentions especially, and illustrates by a remarkably successful case, how *diseases of the lungs* may be engendered by disorders of the digestive organs, and *entirely* subdued by correction of that disorder.

He speaks also suggestively of the possibility of that which is certainly now an established fact. He says: "In cases of diseased lungs, where no disease of the digestive organs is discovered, yet considerable *disorder* does exist, and may continue for many years without any *organic* disease being *apparent*, it is possible that such disorder may excite disease of the lungs, and thus produce a *severer* disease of the latter organs than what existed in the former. Accurate attention to the *digestive organs may determine this important subject, and lead to the prevention and cure of the sympathetic diseases which I have mentioned.*" "This attention must not be merely of that general kind which adverts only to the quality of the ingesta, &c.,

but one which more strictly observes whether the viscera" (that is, reader, not merely the stomach, not merely the digestive organs, but the whole viscera of the body) "and whether these secretions are healthy or otherwise." After speaking of the heart also as affected by the digestive organs, and of the infinity of diseases which arise from the reciprocal disturbance excited between them and the brain, he says: "But even these are not the worst consequences. The disorder of the sensorium, excited and aggravated (by the means which he has described), affects the mind. The operations of the intellect become enfeebled, perplexed, and perverted; the temper and disposition irritable, unbenevolent, and desponding. The moral character and conduct appears even to be liable to be affected by these circumstances. The individual in this case is not the only sufferer, but the evil extends to his connections and to society. The subject, therefore, appears to me to be of such importance, that no apology need be offered for this imperfect attempt to place it under general contemplation." Here is that suggestion which, when carried out, leads to the detection of cases of insanity which depend on disturbances of the digestive organs.

Lastly, as if, notwithstanding his own previous attention to the important question of the influence of the digestive organs in disease, he felt that the inquiry had grown upon him in consequence of Mr. Boodle's endeavor to concentrate his attention to the subject, he concludes by expressing his past obligations to Mr. Boodle; for he says, with admirable modesty and candor, "for Mr. Boodle first instructed me how to detect disorders of the digestive organs *when their local symp-*

toms were so trivial as to be unnoticed by the patient." He urges Mr. Boodle to publish also his own observations on the subject, because any remarks from one who observes the progress of disease "with such sagacity and accuracy can not but be interesting." We are quite aware how feeble our attempt has been to do justice to this admirable book. But nothing can do that but a careful study of the various principles which it either suggests, dimly shadows forth, or deeply and beautifully unfolds.

Through not a very short life, we have had ample opportunity of testing these principles by the bedside, and of endeavoring to connect some of them with the laws in obedience to which they occur; and we are free to declare our impression, that when the book is studied with the requisite previous knowledge and freedom from preconceived opinion, and when tested and carried out in *principle*, as distinguished from any adhesion to mere matters of *detail*, we think it infinitely more valuable that all other professional works whatever. In examining the truths it unfolds, or in our humble endeavors elsewhere at a more analytical or extended application of them, like Abernethy, we have rested our reasoning wholly on facts and observations which are acknowledged and indisputable.

While other views have only led to a practice in the highest degree empirical, or, what is worse, conjectural, those of Abernethy lead often directly, but always, *when duly studied*, to a practice at once clear, definite, and in the sense in which we shall qualify the word, "positive"—that is, one which gives us the power (when we really have the management of the case) of predicting the success or failure, which is at least a ripple indicative of a coming science.

In order, however, to carry out this clearly, we shall at once add what we think necessary to the profession and the public on the subject. The *general relation* of Abernethy's labors to a real and definite science will be better developed in our concluding Summary, when we may have an opportunity of stating what further appears to have been done and what is yet required. It will have been, perhaps, already observed that Abernethy's views involve a few very simple propositions: first, that disturbance of a *part* is competent to disturb the whole system; and conversely, that disturbance of the *whole system* is competent to disturb any *part*. That the disturbance may *commence* in the brain or nervous system, may then disturb the various organs, and that these may again, by reflected action, disturb the brain, and so reciprocally; and that in all these cases tranquillity of the digestive organs is of the very first consequence, not merely from its abstract importance, but from the influence it exerts on the state of the nervous system.

With respect to any influences immediately directed to the nervous system, these we apprehend to be few and simple; some kinds of medicine are, no doubt, in particular cases, useful—none are susceptible of *general* application. None of them are *certain;* and sedatives of all kinds, which appear to have the most direct influence on the nervous system, either require to be employed with the utmost caution, or are in the highest degree objectionable. But there are other *direct* influences certainly, and very important they are. Quiet, avoidance of disturbing external impressions, whether of light, sound, temperature, &c., whether, in fact, of mind or body; but in the majority of man-

kind, how few of them we can, in a strictly philosophical sense, command. We are therefore driven to other sources of disturbance; and in the digestive organs we find those on which we can exert great influence, and in which tranquillity, however procured or under whatever circumstances, is *certain, pro tanto,* to relieve the whole system. This Abernethy attempted, and with a success which was remarkable in no cases more than those which had resisted all conventional modes of proceeding—by general measures, by simplicity of diet, by occasional solicitation of this or that organ, by air and exercise, and measures which were directed to the general health. No doubt in some cases he failed, and so we shall in many; but let us look boldly at the cause, and see whether we do not fail a great deal more from our own ignorance than from any natural impossibility.

To examine the question, we must for the moment forget our admiration of Abernethy—be no longer dazzled by his genius, but look only to our duty—endeavor to discover his defects, or, rather, those of the state of the question when he left us, and see what further investigation has afforded in aid of supplying them.

In the first place, we must examine a little further that proposition which we have seen both in Hunter and Abernethy under different forms. Hunter says the disturbance of the organ sympathizing is sometimes more prominent than that of the organ with which it sympathizes. Abernethy says that the organ primarily affected is sometimes very little apparently disturbed, or not even perceptibly so.

Now, from both these statements, we find that there may be no signs in the primarily affected organ, which,

practically rendered, is nothing more or less than saying that in many cases we must not seek for the primarily affected organ where *the symptoms are;* and this is a great fact; because, although it does not necessarily teach us what we must do, it exposes the broken reed on which so many rely. Now the further point, which, as we would contend, time and labor have supplied, is first this: that what Hunter mentioned as one feature in the history of the sympathies of different organs, and Abernethy as an occasional or not unfrequent occurrence, is, in disorders of any standing, and with the exception of mechanical injury, *in fact, the rule*, the *symptoms* of disorder being almost *never* in the primary organ—nay, even organic change (disease) is for the *most part* first seen in a *secondarily* affected organ. In regard to primarily affected parts, the skin only excepted, they will be found, in the vast majority of cases, to be one or other of the digestive organs.

I will endeavor to render the cause of this intelligible. A minute examination of what happens in a living person, especially if it be extended to some thousands of cases, will soon disclose to the most unlettered person a few instructive facts, showing that Nature has a regular plan of dealing with *all* injurious influences, which, however various many of the details may be, is in general plan exquisitely simple, surprisingly beautiful, and intelligibly conservative; and that the various modes on which she exercises this plan, from the cradle to the grave, are in frequency directly in the order of their conservative tendency. Let us explain. There is no dearth of illustration; the facts are bewilderingly abundant; the difficulty is which to choose,

and how to give them an intelligible *general expression*. Let us take a single case. We know that if a mote gets into the eye, there is irritation; immediately there is a flow of blood to the part; a gland pours forth an abundant supply of tears, and the substance is probably washed out. Very well; we say that is intelligible. But suppose you have the vapor of turpentine, or any other irritant, the same thing happens, but still you can not give the same *mechanical* explanation.

Again, substances which affect the mouth, nose, and stomach, will irritate the eye without any contact, and cause a flow of tears.

Lastly, you know that affections of the mind will do this, and where even we have no *mechanical* irritant at all.

In *all* these cases there has been activity of the vessels of the eye, and in all it has been relieved by secretion. Now this is the universal mode throughout the body; all irritation of the organs is attended by secretion, and where this is done there is no disorder, or, rather, the disorder is relieved; but if organs are irritated continuously, another thing happens, and that is, that an organ becomes unable to secrete constantly more than is natural, and then *some other* organ, less irritated in the commencement, takes on an additional duty—that is, the duty of the animal economy is still done, but not equally distributed.

This is the state in which most people are in crowded cities, and who live in the ordinary luxury or the ordinary habits of civilized society, according to the section to which they may belong. It is easy in such cases to detect those differences which distinguish this

state from what is called condition or perfect health, as we have elsewhere shown.*

But of course there is a limit to this power in organs of taking on additional or compensating actions, and when this limit is exceeded, then those actions are instituted which we call Disease. The site is seldom found to be that of the original disturbance, and usually for a very plain reason, because it would be more dangerous or fatal. It would be scarcely less serious in many cases, even though placed on organs *secondarily* affected, and therefore it is more usually determined *to the surface* of the body, where, taking them simply in the order of their greatest number or frequency, we find the first class of diseased appearances, and which strikingly impress the real nature of the law. They are the most numerous, most obviously dependent on general disturbance, and most conservative, as being least fatal. Diseases of the skin are those to which we allude, and they exceed in the characters I have mentioned all other diseases.

Again, the next surface is that involution of the skin which covers the eye, and which lines the mouth, throat, and the whole of the interior surface of the respiratory tubes and the digestive organs. Here again we find the *next* seat of greatest frequency, and the conservative tendency to coincide. We need only refer to the comparative frequency of what are called colds, ordinary sore throats, and so forth, as contrasted with those more serious diseases which occur in the corresponding surfaces of the respiratory organs and alimentary canal. In tracing diseases onward in the order of their number, we never lose sight of this conservative

* "Health and Disease;" see Treatise on Tumors.

tendency. When *organs* become involved in disease, we find that for once that the substance of the organ is so *affected*, the membrane covering it is affected a hundred, perhaps a thousand times. This is equally observable in respect to the brain, heart, lungs, digestive organs, and some other parts, and it is of great importance practically to know how readily affections are transferred from the *lining* of the alimentary canal and other parts to the membrane *covering* it, rather without than to the intermediate texture of the organ, again impressing, though now in a dangerous type, truly the conservative *tendency* of the law.

Finally, then, we arrive at diseases of Organs; and here we see this conservative tendency still typed in the site first chosen, which is almost always (where we can distinguish the two structures) not so much in the *actual tissue* of the organ as in that which connects it together—what we term the cellular tissue.

This is remarkable in the lungs, where tubercular deposits are first seated—not in the essential structures of the organs, but in those by which they are joined together. All those various depositions which are called tumors generally begin and are very frequently entirely confined to the cellular tissue, and although there is in some malignant forms a disposition to locate themselves *in* organs, there is a very curious tendency toward such as may have already *fulfilled* their purposes in the animal economy.

We might multiply these illustrations to a tedious extent. We might show, for example, in the eye, how curiously the greatest number of diseases in that organ are placed in structures least dangerous to the organ; and even when the organ is spoiled, so to speak, how

much more frequently this is in relation to its function as an optical instrument, than to the structure which forms the link with the brain as an organ of sensation. I must, however, refer* those who wish to see more of the subject to the work in which it is more fully discussed, under the term the "Law of Inflammation," which is a bad phrase, as imperfectly expressing the law; but as the greatest evils it exposes occur in cases of Inflammation, and as it shows the essential nature of that process to be entirely distinct from the characters which had usually been ascribed to it, every one of which may be absent, so that expression was somewhat hastily given to the generalization which seemed best to express a great practical fact.

To return to the bearing of all this on Abernethy's views, and in relation to organs primarily or secondarily affected. In obedience to the conservative law to which I have above alluded, defective function in one organ is usually accompanied by increased action in some other; and thus it happens that the symptoms are almost always in one organ, while the cause, or originally injurious influence, has acted on another. The general reader will of course understand that we are not speaking of direct mechanical injury to an organ. *Now* all the most recondite diseases of the kidney are already acknowledged by many to be seated in a secondarily affected organ. Still, the practice is in too many instances a strange mixture of that which is in accordance with the true views, and much that is in opposition to it, because it often includes that which is certain more or less to disturb the organ which it should be the object to relieve.

* "Medicine and Surgery one Inductive Science," London, 1838. hley.

In the same manner, the lungs and heart are continually disordered and ultimately diseased from causes which primarily act on the liver, and I have seen such a case treated with cod-liver-oil and bitter ales with a result which could not but be disastrous. The liver sends an enormous quantity of blood to the heart and lungs, from which it ought to have extracted a certain quantity of carbon (bile); if this be not done, the heart and lungs are oppressed both by the quantity and the quality of the blood sent to them. If nothing happens in either of the various sites I have mentioned, the blood must be got rid of, and it is so. In many cases a vessel gives way—or blood is poured out from a vessel—or the blood is employed in building up the structures of disease; but then the symptoms are frequently altogether in the chest, and not a sign of any thing wrong in the liver.

I can not go on with the multitudinous illustrations of these principles. The law is to determine injurious influences to the surface. Deposition in the cellular tissue of the lung is bad enough, but it is better, that is, less certainly fatal there than in the respiratory tubes, and that is the explanation of it.

But now comes the practical point; how is the primary organ to be got at, because that is the way to carry out the removal of the impediments to the sanative processes of nature, which in many cases no *mere general* treatment can accomplish. This is to be found by an examination into the real history of the case, and adding the further test of a real and careful observation of the various secretions.

By going back to the former life of the patient, we shall seldom fail to discover the various influences to

which he has been subjected, and the organs to which they have been originally addressed. Having made up our minds, from our previous knowledge of injurious influences, on what organ they will most probably have acted, we now test this, not merely by inquiry after symptoms, and, it may be, not by symptoms at all, but by careful observation of the actual work of the suspected organ; in this way we almost certainly discover the real offender—in other words, the organ primarily affected. This is of immense importance; for we confidently affirm that one single beneficial impression made on it will do more in a short time—nay, in some rare instances, in a single day—than years of routine treatment, that has been nevertheless of good *general* tendency.

In treating it, *i. e.*, the primary organ, however, great discrimination is necessary. If it be already organically affected, that treatment which would be, under other circumstances, necessary, becomes either objectionable or requires the utmost caution; for although an organ diseased in structure will, under some circumstances, yield its characteristic secretion, yet, unless we know the *extent* of the disease, which is just the thing we can almost never be certain about, excitement of it is never without danger. We should therefore excite the primary organ with more or less energy, with more or less caution, or not at all, according to circumstances. If we determine on not exciting it, we should then act on organs *with* which it has ordinarily closest *community* of function, or on whose integrity we can most depend; for choice, we prefer organs which, in a natural state, have nearest identity of function, as having the readiest sympathy, it may be,

with each other. Yet so universal is the sympathy between all the organs, that there is no one that will not, under certain circumstances, or which may not be induced, perhaps, by judicious management, to take on *compensating* actions.

We must not here pursue this subject further. We have endeavored to sketch certain extensions of the views of Mr. Abernethy, and can only refer the profession and the public, for the facts and arguments which demonstrate and illustrate them, to those works in which they have been* enunciated. They have now been subjected to severer trials and abundant criticisms; so far as we know, they have not been shaken, but if there be any merit in them, if they shall have made any nearer approach to a definite science, or sketched the proofs that Induction alone can place us in a position to talk of science at all, they are still sequences easily arrived at by a steady analysis of Abernethy's views. It was he who taught us, in our pupil days, first to think on such subjects; to him we owe the first glimpse we ever had of the imperfect state of medical and surgical science; and if we do not wholly owe to him the means by which we conceive it can alone be rendered more perfect and satisfactory, he has, at least in part, exemplified the application of them. If we have made some advances on what he left us, and added to his beautiful and simple general views something more definite on some points, something more *analytical* on others, still, inasmuch as they are clear deductions from the views he has left us, and from such views alone, such advances remind us that

* "Medicine and Surgery one Inductive Science, and on Tumors," art. Treatment of Organs.

the study of his principles serves but to demonstrate their increasing usefulness, and to augment the sum of our obligations.

SECTION.

Mr. Abernethy's book "On the Constitutional Origin of Local Diseases" had an extensive circulation, and excited a great deal of attention from the public as well as the profession.

As a work which may be read, as it were, in two ways, so as a person read it with one or other object, it produced a great variety of impressions. It may be read simply as a narrative of a number of facts, with the inferences immediately deducible from them. All this is plain and intelligible at once to any body, and of great practical value; but the work contains numerous observations of a suggestive kind, that require careful thought, and some previous knowledge, to enable a person to estimate their value or to trace their onward relations. The impression made by the work on different minds varied, of course, with the reader, his information, and, in some sort, with the spirit in which it was studied; some who had, in their solitary rides, and in the equally solitary responsibilities of country practice, been obliged to think for themselves, recognized in the orderly statement of clearly enunciated views facts and principles which they had already seen exemplified in their own experience, and hailed with admiration and pleasure a book which realized their own ideas, and supplied a rational explanation of their truth and value.

Some, who had never thought much on the subject, and were very ill disposed to begin, regarded his ideas

as exaggerated, and hastily dismissed the subject with the conclusion that he was a clever man, but too full of theory—too much disposed to look to the stomach or the digestive organs. Others, making very little distinction between what they heard of the man, the book, or his practice, and probably not having seen either, but deriving only a kind of dreamy notion of a clever man with many peculiarities, would say that he was mad or an enthusiast. Still, a great many of the thinking portion of the public and the profession held a different tone. The book was recognized as an intelligible enunciation of definite views—rather a new thing in medical science. The application of them became more and more general; his pupils were every where disseminating them more or less, in the navy, in the army, in the provinces, and in America.

Still, it must not be imagined that his principles were disseminated with that rapidity which might have been inferred from his numerous and attentive class. Constituted as medical education is—but more especially as it was at that time, for it is slowly improving—pupils were almost entirely absorbed in the conventional requisitions for examination. There they were not questioned as to the laws of the animal economy, nor even real axioms in approximation to them, but simply as to plain anatomy, the relative situation of parts, and such of the ordinary surgery of the day as had received the approbation of those who were, for the time, the authorities in the profession. Therefore, out of a large number, there were comparatively few whose attentions were not too much absorbed by the prescribed curriculum of hospital routine to study principles—a curriculum constructed as if the object were to see

how much could be learned in a short time without detriment to the very moderate requisitions of the examination at the College of Surgeons. But if comparatively few had time to study Abernethy's lectures at the time, a great many had treasured up his remarks. As the impressions we receive in our childhood, before we are capable of thinking of their value, are vividly rekindled by the experience of real life, so many of the more suggestive lessons of Abernethy's lectures, which passed comparatively unheeded at the time, or were swamped in "getting up" the conventionalisms of an examination at the College, recurred in after days in all their force and truthfulness. Many, however, with more time and perhaps more zeal, endeavored to thoroughly master his views, and he was now and then gratified by evidence that time had only served to mature the conviction of the pupils, in dedications and other complimentary recognitions, in the works of such of them as had been induced to publish any portion of their own experience.

However various, too, the impressions made by his book, there are two things certain, viz., that he was much talked of, and the book had an extensive sale, went through several editions, and served to give the *Public* some notion of those principles which he was so beautifully unfolding to the younger portions of the profession in his lectures. Besides, although there were not wanting those who spoke disparagingly of him, still, as an old and very far-seeing colleague of our own used to say, with perhaps too much truth, when canvassing the various difficulties of a medical man's progress in the metropolis, "A man had better be spoken ill of than not spoken of at all." He was now beginning to be

very largely consulted. The Public had "got hold of him," as we once heard a fashionable physician phrase it, and he soon obtained a large practice. A great many consulted him for very good reasons, and probably many for little better reason than that he was the fashion. Abernethy had a great deal more practice than he or any other man could do full justice to; finding it impossible to make people understand his views in the time usually allotted for consultation, he now referred his patients to his book, and especially page 72. This has been made the subject of a great deal of quizzing, and of something besides not altogether quite so good-natured. For our parts, we think it the most natural thing in the world to refer a patient to a Book, which may contain more in full the principles we desire them to understand, than we can hope to find opportunity to explain at the time of consultation. We think that if asking a few questions and writing a prescription (and we are here only thinking of a reasonably fair average time visit) be worth a guinea, the explaining a principle, or so placing a plan before a patient that his following it may be assisted and secured, is worth fifty times as much; and it came particularly well from Abernethy, one of whose lessons, and a most excellent lesson too, was the remark, "That if a medical man thought he had done his duty when he had written a prescription, and a patient regarded his as fulfilled when he had swallowed it, they were both deceived." As we are convinced that, *cæteris paribus*, success in medical treatment is indefinitely promoted by both patient and surgeon *clearly understanding* each other as to *principles*, we think it would be of great use if every medical man who has any definite

principles of practice were to explain them in short printed digests—nay, we have sometimes thought it would be useful to both parties if, in addition to the inquiries and advice given at consultation, a medical man should have brief printed digests of the *general* nature and relations of most of the well-defined diseases; a careful perusal of one of these would help the patients to comprehend the nature and objects of the advice given, tend to the diffusion of useful knowledge, and in time help them to understand whether their treatment were conducted on scientific views, or merely a respectable sort of empiricism. What is here intended might be printed on a sheet of note-paper; and, while it would be of great service to the patient, would form no bad test of the clearness and definite principles of the medical attendant. There is no doubt that Abernethy did good service by referring patients to his book; it led some to think for themselves, and it also assisted, *pro tanto*, in doing away with that absurd idea which supposes something in medical practice inappreciable by the public.

At this time, while, with a considerable indifference to money, he was making a large income, still he was obliged to work hard for it. He had yet no emolument from the Hospital—he was still only an assistant surgeon. The tenacity of office, which assistant surgeons so commonly complain of, they have themselves seldom failed to exercise when they have become surgeons (as we shall see, Mr. Abernethy excepted). This long tenure by his senior wearied him, and was at times a source of not very agreeable discussions.

On one occasion, Sir James Earle, his senior, was reported to have given Abernethy to understand that,

on the occurrence of a certain event, on which he would obtain an accession of property, he, Sir James, would certainly resign the surgeoncy of the Hospital. About the time that the event occurred, Sir James, happening one day to call on Abernethy, was reminded of what he had been understood to have promised. Sir James, however, having, we suppose, a different impression of the facts, denied ever having given any such a pledge. The affirmative and negative were more than once exchanged, and not in the most courteous manner. When Sir James was going to take his leave, Abernethy opened the door for him, and as he had always something quaint or humorous to close a conversation with, he said at parting, "Well, Sir James, it comes to this: you say that you did not promise to resign the surgeoncy at the Hospital; I, on the contrary, affirm that you did; now all I have to add is, —— the liar!"

In 1813 Abernethy accepted the surgeoncy of Christ's Hospital, which he held until 1828, a short time before he retired from practice.

In 1814 he was appointed Professor of Anatomy and Surgery to the College of Surgeons—an appointment which could be, at this period, of little service to him, whatever lustre it might reflect on the College, where he gave lectures with a result which has not always followed on that appointment, namely, of still adding to his reputation. He was one of the few who addressed the elders of the profession without impressing the conviction that they had been too much employed in addressing pupils. He had given lectures two years in succession, when, in 1816, circumstances occurred which will occupy us for some little time; a new scene

will be opening on us, and this suggests the time—1815–16—as convenient for taking a retrospect, and a sort of general view of Abernethy's position.

CHAPTER XVII.

"Sperat infestis metuit secundis
Alteram sortem bene preparatum Pectus."
HOR.

"Whoe'er enjoys th' untroubled breast,
With Virtue's tranquil wisdom bless'd,
With hope the gloomy hour can cheer,
And temper happiness with fear."

WHEN we look abroad among mankind, nay, even in the contracted sphere of our own experience, it is interesting to reflect on the varied current of human life in different cases. In some, from the cradle to the grave, life has been beset with difficulties—it has been a continued struggle; the breath seems to have been first drawn, and finally yielded up, amid the multifarious oppositions and agitations of adversity. In other instances, Life seems like an easy, smoothly gliding stream, gently bearing Man on to what had appeared to be the haven of his wishes, and the little voyage has been begun and completed without the appearance of a ripple. All varieties are no doubt the result of constantly operating laws. Of these, many are probably inscrutable by us; still more, perhaps, escape our observation. The unforeseen nature of many events confers the character of a mystery on any attempt at foresight; yet, when we take a careful retrospect of a life, it is curious to observe how naturally the secondary causes appear to have produced the results by

which they were followed, but which, beforehand, no one had thought of predicting.

Varied, however, as is the course human life, few men have arrived at eminence without difficulty. We do not mean that conventional prominence of "position" which makes them marked in their day, but that which leaves the impression of their minds on the age in which they lived, or on the science or other pursuit which they had chosen—original minds, who have striven to enlarge the boundaries of our knowledge. Such men usually have the ample gifts of nature with which they are endowed somewhat counterbalanced by the difficulty experienced in the successful application of them.

Abernethy had not been altogether exempt from such difficulties. With a sensitive organization, he had had to make his own way; he experienced the difficulties which attend the advocacy of opinions and principles which were opposed to, or, at all events, different from those generally entertained. He had had to encounter that misconstruction, misrepresentation, ridicule, even malice, save the mark! which is too frequently provoked by any attempts to tell people that there is something more correct than the notions which they have been accustomed to value. Still, when we compare Abernethy's course with that of many, we had almost said most, benefactors to science, he might be said to have been a fortunate man. If a man has power and a "place to stand on," and Abernethy had both, truth will tell at last.

A retired spot in an obscure street near St. Bartholomew's had been, by his almost unaided talents, expanded into a theatre within the walls of the Hospital.

This was becoming again crowded; and although it formed a satisfactory arena for the development and illustration of his principles, the increasing audiences were significant of the coming necessity of a still larger building, and which, in fact, was a few years afterward constructed. He had, in fact, arrived, as we imagine, at a point which was comparatively smooth water, and which we are inclined to regard as the zenith of his career.

In the opening of his beautiful lectures at the College, Abernethy, in one of his warm and earnest endeavors to animate his audience to regard the love and the search for truth as the only impulse which could urge on and sustain industry in the "Science" of our profession, had observed that, "unfortunately, a man might attain to a considerable share of public reputation without being a real student of his profession." There have been, indeed, too many examples of that, as also of those who, after years of labor, have failed to attain a scanty living.

Abernethy had been a real and laborious student in science, and he was now reaping an abundant and well-deserved fruition. Few surgeons have arrived at a position so calculated to satisfy the most exacting ambition; although the full extent and bearing of his principles were by no means universally understood, yet the general importance of them was so, and in some measure appreciated. In a greater or less degree, they were answering the tests afforded by the bed-side in all parts of the world.

Ample, therefore, as the harvest he was reaping in a large practice, he was enjoying a still higher fruition in the kind of estimation in which he was held. He

had a high reputation with the public, one still higher among men of science. His crowded waiting-room was a satisfactory evidence of the one, and the manner in which his name was received here, on the Continent, or in America, a gratifying testimony of the other. He was regarded much more in the light of a man of enlarged mind as a medical philosopher, than merely as a distinguished surgeon.

From the very small beginnings left by Mr. Pott, he had raised the school of St. Bartholomew's to an eminence never before attained by any school in this country. I think I may say that, in its *peculiar character*, it was at that time (1816) unrivaled.

Sir Astley Cooper was in great force and in high repute at this time, and combining as he did the schools of *two* large hospitals, had, I believe, even a larger class. Both schools, no doubt, endeavored to combine what is not, perhaps, very intelligibly conveyed by the terms practical and scientific; but the universal impression assigned the latter as the distinguishing excellence of Mr. Abernethy, while the former was held to express more happily the characteristic of his eminent contemporary.

Whatever school, however, a London student might have selected as his Alma Mater, it was very common for those whose purse, time, or plans permitted it, to attend one or more courses of Abernethy's lectures; and it was pleasing to recognize the graceful concession to Mr. Abernethy's peculiar excellence afforded by the attendance of some of Sir Astley's pupils, and his since distinguished relatives, at the lectures of Abernethy.

As I have said, his practice was extensive, and of

the most lucrative kind—that is, it consisted largely of consultations at home. Still, he had patients to visit, and as he was very remarkable for punctuality in all his appointments, was therefore not unfrequently obliged to leave home before he had seen the whole of those who had applied to him. The extent of his practice was the more remarkable, as, however exaggerated it might be, still there was a very general impression that his manners were unkind and repulsive. His pupils were enthusiastically fond of him, and it was difficult to know which was the dominant feeling, their admiration of his talents or their personal regard.

Some of the most distinguished men had been of their number, and it would be gratifying to us to enumerate the very complimentary catalogue of eminent men who have been indebted for much of their eminence and success to the lessons of Abernethy; but as, in so doing, we might possibly, in our ignorance, omit some names which ought to be recorded, we forego, therefore, this pleasure, lest we should unintentionally appear to neglect any professional brother whom we ought to remember.

In 1812–13, the pupils had presented Mr. Abernethy with a piece of plate "as a testimony of their respect and gratitude." The arrangement of the matter was confided chiefly to the present Sir James Eyre, Mr. Stowe, of Buckingham, and Mr. William Bullen. In a very interesting letter with which I have been favored by Mr. Stowe, among other matters hereafter to be mentioned, it is stated that the plate was delivered at Abernethy's house on the 1st of April; and as he had no more entirely escaped such things than other

medical men, he at first regarded it as a hoax; but when the contents were exposed, and he discovered the truth, he became much affected.

The regard of the pupils was always the thing nearest his heart. On meeting the class at the hospital, he essayed to express his feelings; but, finding that he should only break down, he adopted the same course as he had employed on another memorable occasion, and *wrote* his acknowledgments, a copy of which was suspended against the wall of the theatre.

It is due to our worthy and kind-hearted contemporary, Sir James Eyre, to add, that Mr. Stowe observes in his letter, that of all others, Sir James was the most zealous promoter of a movement so creditable to all parties. Some years after this, another subscription was commenced by the pupils for a portrait of Abernethy, which was painted by Sir Thomas Lawrence, and engraved by Bromley. Sir Thomas, and the engraver after him, have been most successful. He has caught one of Mr. Abernethy's most characteristic expressions. We see him as he often stood when addressing the *anatomical* class. In his surgical lecture he was generally seated. We think it impossible to combine more of him in one view. We fancy we see his acute penetration, his thoughtful expression, his archness and humor, and his benevolence, all most happily delineated, while the general position and manner is eminently faithful.

In 1815 he had been appointed surgeon to the hospital, after twenty-eight years' tenure of the assistant-surgeoncy; a subject that we merely mention now, as we shall be obliged to revert to it when we consider the subject of the "Hospital System."

At the time to which we allude, lecturing had become so easy as to appear little more than amusement to him, yet there were (we speak of about 1816) no signs of neglect or forgetfulness. His own interest in the subject was sustained throughout; but, as his unrivaled lecturing will be more fully described, we must not anticipate. Few old pupils visited London without contriving to get to the hospital at lecture-time. The drudgery of the early morning anatomical demonstration was taken off his hands by Mr. Stanley, who performed his task with credit to himself and with advantage to the pupils.

Every morning, punctually at nine o'clock, would Mr. Stanley, in an amusingly declamatory tone, shout forth the dry but necessary truths of descriptive anatomy. His delivery was accompanied with not a little of metropolitan peculiarity, numerous facial gesticulations, and with occasional solemnities of tone which assorted oddly with the homely subject of the course of an artery. But this excited no satire; it was always received with smiles and good-nature, and gave room for a little fun, which served to light up the foggy mornings of a London winter, and the occasionally not very lively details of an anatomical demonstration.

If the style was faulty, the duty was well done. The endless, but perhaps necessary repetitions, impressed the facts; a subordinate but important branch of the school was well supplied, and Mr. Stanley had a numerous and attentive class. Abernethy, at this time, in addition to a successful school, a large and attached class, a solid and world-wide reputation, was receiving numerous proofs that his principles were recognized; that, however imperfectly adopted, they were gaining

ground; and that, if all his suggestions were not universally admitted, they were becoming axiomatic with some of the first surgeons, both in this and other countries.

He had not, we think, as yet sustained the loss of any member of his family, nor hardly experienced any of those ordinary crosses from which few men's lives are free, and that sooner or later seldom fail to strew our paths with enough to convince us that perfect peace can not be auspiciously sought in the conduct of human affairs. He was soon, however, to receive an impression of a painful nature, and from a quarter whence, whatever might have been his experience, he certainly little expected it. Long accustomed to be listened to by admiring and assenting audiences, whether in the theatre of the hospital, or in those clusters of pupils which never failed to crowd around him whenever he had any thing to say, he was now to have some of his opinions disputed, his mode of advocating them impugned, his views of "Life" made the subject of ridicule, and even his fair dealing in argument called in question. All this, too, by no stranger—no person known only to him as one of the public, but by one who had been his pupil, whose talents he had helped to mature and develop, whose progress and prospects in life he had fostered and improved, and to whom, as was affirmed by the one and attested by the other, he had been a constant friend.

That this controversy was the source of much suffering to Abernethy, we are compelled to believe; and it is altogether to us so disagreeable and difficult a subject, that we should have preferred confining ourselves to a bare mention of it, and a reference to the works

wherein the details might be found. It is, however, too important an episode in the life of Abernethy to be so passed over; it suggests many interesting reflections; it exhibits Abernethy in a new phase; illustrates, under very trying circumstances, the

"Virtus repulsæ nescia
Intaminatis fulget honoribus;"

and brings out, in stronger relief than any other transaction of his life, the best and most distinctive traits of his character (benevolence and Christian feeling), under temptations which have too frequently disturbed the one and destroyed the other.

CHAPTER XVIII.

"Opinionum commenta delet dies, naturæ judicia confirmat."—CICERO.

"Time, which obliterates the fictions of opinion, confirms the decisions of nature."

WHOEVER has wandered to the south side of Lincoln's Inn Fields will have found himself in one of the "solitudes of London"—one of those places which, interspersed here and there amid the busy current that rushes along every street and alley, seems quite out of the human-life-tide, and furnishes a serene spot, a dead calm in the midst of tumult and agitation. Here a lawyer may con over a "glorious uncertainty," a surgeon a difficult case, a mathematician the general doctrine of probability, or the Chevalier d'Industrie the particular case of the *habitat* of his next dinner; but, unless you have some such need of abstraction from the world, these places are heart-sinkingly dull. You

see few people; perhaps there may be a sallow-looking gentleman, in a black coat, with a handful of papers, rushing into "chambers," or a somewhat more rubicund one in blue walking seriously out; the very stones are remarkably round and salient, as if from want rather than from excess of friction. The atmosphere from the distance comes charged with the half-spent, booming hum of population.

Immediately around you, all is comparatively silent.

If you are in a carriage, it seems every moment to come in contact with fresh surfaces, and "beats a roll" of continued vibrations; or, if a carriage happen to pass you, it seems to make more noise than half a dozen vehicles any where else. You may observe a long façade of irregular elevations—upright parallelograms called habitable houses—but, for aught you see, half of them may have been deserted; the dull sameness of the façade is broken only by half a dozen Ionic columns, which, notwithstanding their number, seem very serious and very solitary. You may perhaps imagine that they bear a somewhat equivocal relation to the large house before which they stand; you may fancy them to be architectural relics, inconveniently large for admission to some depository within, or that they are intended as a sort of respectable garniture to the very plain house which they partly serve to conceal or embellish; or quiz them as you please, for architects can not do every thing, nor at once convert a very ugly house into a very beautiful temple.

But stop there! for temple it is, ay, perhaps, as human temples always are, not altogether unprofaned; but not so desecrated, we trust, but that it may yet contain the elements of its own purification. It en-

shrines, reader, a gem of great value, which nothing extrinsic can improve, which no mere art can embellish—a treasure gathered from the ample fields of Nature, and which can be enriched or adorned only from the same exhaustless store. Though humble, indeed, the tenement, yet, were it humbler still, though it were composed of reeds and covered in with straw, it would remain hallowed to science.

It holds the monument of the untiring labor of a great master, the rich garnerings of a single mind—the record, alas! but of *some* of the obligations mankind owe to the faithful pioneer of a science, which, however now partially merged in clouds and darkness, and obscured by error, still exhibits through the gloom enough to assert its lofty original, and to foster hopes of better times.

The museum of John Hunter (for it is of that we write) is one of the greatest labors ever achieved by a single individual. To estimate that labor aright, to arrive at a correct notion of the man, the spectator should disregard the number of preparations—the mass of mechanical and manipulatory labor which is involved—the toil, in fact, of mere collection, and, looking through that, contemplate the *thought* which it records; the general nature of the plan; the manner in which the Argus-eyed author has assembled together various processes in the vegetable creation; how he has associated them with their nearest relations in the animal kingdom, and how he has traced the chain from link to link, from the more simple to the more compounded forms, so as to throw light on the laws dispensed to Man. The spectator should then think of the Hunterian portion of the museum as the ex-

hausting harvest of half a life, blessed with no greatly lengthened days—a museum, gathered not in peaceful seasons of leisure, nor amid the ease of undiverted thought, but amid the interrupting agitations of a populous city, the persistent embarrassments of measured means, the multiform distractions of an arduous profession, the still more serious interruptions of occasional indisposition, and, finally, amid annoyances from quarters whence he had every right to expect support and sympathy—annoyances which served no other purpose but to imbitter the tenure of life, and to hasten its termination.

Our space will not allow us to dwell more on this subject, or the museum just now. But where is our excellent conservator—where is Mr. Clift, the assistant, the friend, and young companion of John Hunter? He, too, is gathered to his rest. He, on whose countenance benevolence had impressed a life-long smile; he who used to tell us, as boys, so much of all he knew, and to remind us, as men, how much we were in danger of forgetting, is now no more. How kind and communicative he was, how modest, and yet how full of information; how acceptably the cheerfulness of social feelings mantled over the staid gravity of science; how fond of any little pleasant story to vary the round of conservative exposition; and then, if half a dozen of us were going round with him, the "conticuere omnes," when, with his characteristic prefatory shrug, he was about to speak of Hunter! Then such a memory! Why once, in a long, delightful chat, we were talking over the Lectures at the College, and he ran over the general objects of various courses, during a succession of years, with an accuracy which, if judged of by those

which had fallen within our own recollection, might have suggested that he had carried a syllabus of each in his pocket.

We had much to say of Mr. Clift; but, in these times of speed, there is hardly time for any thing; yet we think that many an old student, when he has lingered over the stately pile reared by John Hunter, may have paused, and felt his eyes moistened by the memory of William Clift.

When Mr. Abernethy lectured at the College, there was no permanent professor, as is now the case—no Professor Owen, of whom we shall have to speak more in the sequel. Both the professorship of anatomy and surgery, and also that of comparative anatomy, were only held for a comparatively short time.

It is not very easy to state the principle on which the professors were selected. The privilege of addressing the seniors of the profession has never, any more than any other appointment in the profession, been the subject of public competition; nor, unless the council have had less penetration than we are disposed to give them credit for, has "special fitness" been a very dominant principle. Considering the respectability and position of the gentlemen who have been selected, the Lectures at the College of Surgeons, under the arrangements we are recording, were certainly much less productive, as regards any improvement in science, than might have been reasonably expected.

The vice of "system" could not be always, however, corrected by the merits of the individual. One result, which too commonly arose out of it, was, that gentlemen were called on to address their seniors and contemporaries for the first time, who had never before ad-

dressed any but pupils. It would not, therefore, have been very wonderful if, among the other difficulties of lecturing, that most inconvenient one of all should have sometimes occurred, of having nothing to say.

Mr. Abernethy was appointed in 1814, and had the rare success of conferring a lustre on the appointment, and the perhaps still more difficult task of sustaining, before his seniors and contemporaries, that unrivaled reputation as a lecturer which he had previously acquired. As Mr. Abernethy had been all his life teaching a more scientific surgery, which he believed to be founded on principles legitimately deducible from facts developed by Hunter, so every circumstance of time, place, and inclination disposed him to bring Mr. Hunter's views and opinions under the review of the audience at the College, composed of his seniors, his contemporaries, and of pupils from the different schools. He was, we believe, equally desirous of disseminating them among the one class, as of having them considered by the others. At this time, no lectures of Mr. Hunter had been published; and Mr. Abernethy thought that, to understand Hunter's opinions of the actions of living bodies, it was expedient that people should have some notion of what Mr. Hunter considered to be the general nature of—"Life."

We hold this point to be very important; for all experience shows that speculation on the abstract nature of things is, to the last degree, unprofitable. Nothing is so clear in all sciences as that the proper study of mankind is the Laws by which they are governed. Yet we can not, in any science, proceed without something to give an intelligible expression to our ideas, which *something* is essentially hypothetical.

If, for example, we speak of light, we can hardly express our ideas without first supposing of light that it is some subtle substance sent off from luminous bodies, or that it consists in undulations, as we adopt the corpuscular or undulatory theory. It would be easy to form a third, somewhat different from either, and yet to pretend to no more than to give a still more intelligible expression to phenomena.

Now this is, as it appears to us, just what Mr. Abernethy did. He did not speculate on the nature of life for any other reason than to give a more intelligible expression to Mr. Hunter's other views. At that time there was nothing *published* showing that Mr. Hunter's ideas of life were what Mr. Abernethy represented them to be; they might have been remembered by men of his own age, but this was not very good for controversy; and as that was made a point of attack,* it is well that the since collected "Life and Lectures of John Hunter," by Mr. Palmer, have given us a written authority for the accuracy of Abernethy's representations.

In theorizing on the cause of the phenomena of living bodies, men have, at different times, arrived at various opinions; but, although not so understood, it seems to us that they all merge into two—the one which supposes Life to be the result of organization, or the arrangement of matter; the other, that the organization given, Life, is something superadded to it, just as electricity or magnetism to the bodies with which these forces may be connected. The latter was

* "For this Hunterian Theory of Life, which its *real* author so stoutly maintains, &c., is nowhere to be found in the published writings of Mr. Hunter."—*See Lawrence's Two Lectures (Notes).*

the opinion which Mr. Abernethy advocated as that held by Mr. Hunter, and which he honestly entertained as most intelligibly and rationally, in his view, explaining the phenomena.

That this *was* Mr. Hunter's view, a few passages from the work, as published by Mr. Palmer, will show. "Animal and vegetable substances," says Mr. Hunter, "differ from common matter in having a power superadded totally different from any other known property of matter, out of which various new properties arise."* So much for a general view. Next, a reference to particular powers: "Actions in animal bodies have been so much considered under a chemical and mechanical philosophy, that physiologists have entirely lost sight of Life;" again showing how correctly Abernethy had interpreted Hunter's notion of the necessary "Key," as Abernethy phrased it, to his views; Hunter says: "For unless we consider Life as the immediate cause of attraction occurring in animals and vegetables, we can *have no just conception* of animal and vegetable matter."† Mr. Hunter, in relation to the idea of life being the result of organization, shows how faithful an exposition Abernethy had given of his views. "It appears," says he, "that the Living Principle can not arise from the peculiar modification of matter, because the same modification exists where this principle is no more."—Vol. i., p. 221; and in the same page: "Life, then, appears to be something superadded to this peculiar modification of matter."

Then as to one of the illustrations employed by Abernethy. Hunter, after saying that he is aware that it is difficult to conceive this superaddition, adds:

* Vol. i., p. 214, note. † Vol. xvi., p. 217.

"But to show that matter may take on new properties without being altered itself as to the species of matter, it may not be improper to illustrate this. Perhaps magnetism affords the best illustration. A bar of iron, without magnetism, may be considered as animal matter without life. With magnetism, it acquires new properties of attraction and repulsion," &c.

Mr. Abernethy, as we have said, advocated similar views, and, we repeat, founded his reason for so doing on what he conceived to be the necessity of explaining Mr. Hunter's ideas of life before he could render his (Hunter's) *explanation* of the various phenomena intelligible. In all of this he certainly was expressing Mr. Hunter's own views, with that talent for ornamenting and illustrating every thing he discussed for which he was so remarkable.

Abernethy multiplied the illustrations by showing the various analogies which seemed to him to be presented in the velocity, the chemical, and other powers of Life and Electricity; and with especial reference to the extraordinary discoveries of Sir Humphrey Davy, added such illustrations as more recent achievements in chemical science had placed within his grasp; and thence concluding it as evident that some subtle, mobile, invisible substance seemed to pervade all nature, so it was not unreasonable to suppose that some similar substance or power pervaded animal bodies. He guarded himself, however, both in his first, and again in his second course of Lectures, from being supposed to identify Life with electricity, in a long paragraph especially devoted to that object. In his second course, in 1815, he proceeded to enumerate John Hunter's various labors and contributions to science, as shown by

the museum, in which he gave very great interest to every subject, and in so popular a form, that we wonder now, when (as we rejoice to see) there are some small beginnings of a popularization of physiology, that there is not a cheap reprint of them.

With regard to the object in view, we can not see how, as a faithful interpreter of John Hunter, Abernethy could have done less; and if any theory of life at all is to be adopted as necessary to give an intelligible expression to phenomena, one can hardly quarrel with that which takes the phenomena of life on the one hand, and those of death on the other, as the means of expressing our ideas. When we see a man dead whom we had contemplated alive, it certainly seems that something has left him; and whether we say "something superadded," the "breath" or "Life," or by whatever term we call it, we appear really to express, in as simple a form as possible, the facts before us. It seems to us that, after all, John Hunter did little more, for the illustration or similitude by which we endeavor to render an idea clear has in strictness nothing *necessarily* to do with the idea itself, any more than an analogy, however real the likeness, or a parallelism, however close, represents identity.

We should have thought it, therefore, of all things in the world, the least likely that any theory of Hunter's should have disturbed the harmony which ought to exist between men engaged in scientific inquiries. It shows, however, the value of confining ourselves to phenomena, and the conclusions deducible from them, as strictly as possible. Nothing could possibly be more philosophical than the terms in which Mr. Abernethy undertook to advocate Mr. Hunter's views of life. His

definitions of hypothesis, the conditions on which he founded its legitimate character, the modesty with which he applies it, and the clearness with which he states how easily our best-grounded suppositions may be subverted by new facts, are very lucid and beautiful, and give a tone to the Lectures, the very last calculated, as we should have thought, to have led to the consequences which followed.

CHAPTER XIX.

"Oft expectation fails, and most oft there
Where most it promises."

ALL'S WELL THAT ENDS WELL.

No man, perhaps, ever made a happier application of a Divine precept to the conduct of human pursuits than Lord Bacon, when he said that the kingdom of man founded in the sciences must be entered like the kingdom of God—that is, as a little child.

Independently of the sublimity of the comparison, it is no less remarkable for its practical excellence.

How many broken friendships, enmities, and heart-burnings might have been prevented, had even a very moderate degree of the frame of mind, here so beautifully typified, been allowed to preside over human labor! How charitably should we have been led to judge of the works of others! how measured the approbation of the most successful of our own! No doubt in the pursuit of truth there is great difficulty in commanding that combination of fearlessness toward the world, and that reverential humility toward the subject, both of which are alike necessary, although the one may be

more essential to the discovery of truth, the other to the enunciation of it.

To pursue truth regardless of the multiform errors and conventionalisms amid which experience has generally shown almost all subjects to have been involved, unmindful of the rebukes and obloquy by which too often the best conducted investigations are opposed and assailed, and yet to let no angry passion stir, no conviction that we are right engender an improper idea of our own superiority, or a disregard for the claims of others—this overcoming of the world, we had almost said, is intensely difficult, for it is, in fact, overcoming ourselves; yet we dare not say it is that of which human nature is incapable, for there is nothing that the heart suggests as morally right which is really impossible to us, and instances have not been wanting of the combination of the greatest knowledge with the most sincere humility.

On the other hand, it must be admitted that if there were any thing especially calculated to bring down the cultivators of science and literature to the level of those who are regardless of the claims or insensible to the attractions of either, we could hardly find a series of facts more fatally influential than are furnished by the disputes of men who have been employed in the cultivation of these elevating studies. Powerful intellects in teaching the comparative nothingness of man's knowledge seem to give great assistance in the acquisition of humility; but how few are the intellects of such power? The contemplation of nature, however, may, we conceive, infuse *feelings* of humility which can rarely be attained by the efforts of intellect alone.

We have seen in Lord Bacon that the highest pow-

ers of intellect afforded for a while no security against the subtle, but one would have thought feeble, suggestions of a degrading cupidity. We all know, in literature, how much the fruits of intellect depend on the dominant feeling under which they are reared and nourished. Even men like Pope and Addison, who had little in common but that which should elevate and adorn human nature, were so dragged down by the demon of controversy, that, commencing with little more than the irritability of poets, they ceased only when they had forgotten even the language of gentlemen. In the controversy in question, Mr. Abernethy's position was a very difficult one, and one which shows how easily a man with the best intentions may find himself engaged in a discussion which he never contemplated; be wounded on points on which he was most sensitive, and yet defend himself with dignity, and without compromise of any of those principles which should guide a gentleman and a Christian.

Mr. Lawrence was appointed Professor of Comparative Anatomy in 1816, and we know that Mr. Abernethy hailed his appointment with considerable interest. He was regarded as a gentleman of some promise, and had already, if we mistake not, distinguished himself by a singularly nice, level style of composition, as well as by careful compilation.

Nothing could seem more auspicious than such a prospect. Mr. Abernethy was a man remarkable for the original view he took of most subjects—a vast experience gathered from various sources by a mind combining vividly perceptive powers with great capacity for reflection, a conformation well adapted for opening out *new paths and extending* the boundaries of science.

Abernethy was now to be associated with a colleague who had already manifested no ordinary talent for the graceful and judicious exposition of what *was already known.*

Nothing could have seemed more promising; nor was there any thing in the opening of Mr. Lawrence's first Lecture which seemed calculated to baulk these expectations. His exordium contained an appropriate recognition of Mr. Abernethy, which, as we should only mar by extract, we give entire. Having referred to the circumstances which immediately preceded his appointment, Mr. Lawrence thus proceeds:

"To your feelings I must trust for an excuse, if any be thought necessary, for taking the earliest opportunity of giving utterance to the sentiments of respect and gratitude I entertain for the latter gentleman (Mr. Abernethy). You and the public know and have long known his acute mind, his peculiar talent for observation, his zeal for the advancement of surgery, and his successful exertions in improving the scientific knowledge and treatment of disease; his singular happiness in developing and teaching to others the original and philosophic views which he naturally takes of all subjects that come under his examination, and the success with which he communicates that enthusiasm in the cause of science and humanity which is so warmly felt by himself; the admirable skill with which he enlivens the dry details of elementary instruction are most gratefully acknowledged by his numerous pupils.

"All these sources of excellence have been repeatedly felt in this theatre. Having the good fortune to be initiated in the profession by Mr. Abernethy, and to

have lived for many years under his roof, I can assure you with the greatest sincerity, that, however highly the public may estimate the surgeon and philosopher, I have reason to speak still more highly of the man and the friend, of the invariable kindness which directed my early studies and pursuits, and the disinterested friendship which has assisted every step of my progress in life, the independent spirit and the liberal conduct which, while they dignify the profession, win our love, command our respect for genius and knowledge, converting these precious gifts into instruments of the most extensive public good."*

This graceful exordium, so appropriate to the mutual relations of Mr. Abernethy and Mr. Lawrence, deriving, too, a peculiar interest from the circumstances under which it was delivered, had also the rare merit of a eulogium marked by a comprehensive fidelity. There is nothing fulsome or overstrained; Mr. Abernethy's well-known excellences were touchingly adverted to as matters with which all were *in common* familiar, while the necessarily more special facts of his social excellences were judiciously brought out in just relief, and, as an appropriate climax, by one who appeared animated by a grateful and personal experience of them. It is distressing to think that any thing should have followed otherwise than in harmony with that kindness and benevolence which, while it forms the most auspicious tone for the calm pursuits of philosophy, confers on them the purifying spirit of practical Christianity.

Mr. Lawrence's first Lecture consisted mainly of an

* March, 1816. Introductory Lecture to Comp. Anatomy, published July.

able and interesting *exposé* of the objects and advantages of Comparative Anatomy to the physiologist, pathologist, medical man, and the theologian, together with numerous references to those authors to whom the science was most indebted. The second Lecture was devoted to the consideration and the discussion of various views which had been entertained of the living principle, or by whatever name we may designate that force which is the immediate cause of the phenomena of Living Bodies.

Among others, those entertained by Mr. Hunter and advocated by Mr. Abernethy were referred to, but in a tone which was not, perhaps, best suited to promote calm discussion, and which we may be allowed to say was unfortunate—a tone of ridicule and banter which was hardly suited either to the subject, the place, nor the distinguished men to whom it related; to say the least of it, it was very unnecessary. We do not quote these passages, because they are, we think, not necessary to the narrative, and could, we think, now give no pleasure to any party.*

In Mr. Abernethy's next Lectures at the College, he still advocated the rational nature of Mr. Hunter's views on Life, and in a most interesting exposition of the Gallery of the Museum, opposed at every opportunity the views of certain French physiologists which Mr. Lawrence had adopted.

He did this, however, without naming Mr. Lawrence, and applied his remarks to the whole of those who had advocated the opinions that Life was the result of organization as a "Band of modern skeptics."

* Introduction to Comp. Anatomy, by W. Lawrence, F.R.S. London, 1816.

Mr. Abernethy had, as he says, argued against a party, and studiously kept Mr. Lawrence, as an individual, out of view. He, however, argued roundly against the views advocated by him, and endeavored to show that those of Mr. Hunter, besides being at least a philosophical explanation of the phenomena, had a good moral tendency, although he admitted that the belief that man was a mere machine did not alter established notions, and that there were many good skeptics; still, he thought that the "belief of the distinct and independent mind incited people to act rightly," &c.

In regard to the general influence of the state of France, he says, "Most people think and act with a party;" and "that in France, where the writings of the philosophers and wits had greatly tended to demoralize the people, he was not surprised that their anatomists and physiologists should represent the subject of their studies in a manner conformable to what is esteemed most philosophical and clever; but that in this country the mere opinions of some French anatomists with respect to the nature of life should be extracted from their general writings, translated, and extolled, can not but excite surprise and indignation in any one apprized of their pernicious tendency." There is no doubt that there was at the time in this country a disposition in many people to disseminate very many opinions on various subjects different from those usually entertained, and we believe that this disposition was very greatly increased by the well-intentioned, no doubt, but, in our view, injudicious means employed for the suppression of them.

We think it important to remember this, because, in estimating fairly any books or lectures, we must

regard the spirit of the time in which they were delivered—what would be judicious or necessary at one period, being of course obsolete or unnecessary at another.

In relation to the opinions of the nature of life, that which Mr. Abernethy alleged that he intended to apply to a party, Mr. Lawrence alleged that he held as personally applying to himself. Accordingly, the following course of Mr. Lawrence's Lectures commenced with "A Reply to the 'Charges' of Mr. Abernethy." This Lecture, which it is impossible for any man, mindful of all the circumstances, to peruse without pain (especially if we include the notes), is couched in language of the most vituperative and contemptuous character; sarcasm, ridicule, imputation of corrupt motives by turn, are weapons wielded with the appearance of the most unrelenting virulence.

Those of the audience who had heard the graceful exordium, which we have quoted, to the first course of Lectures, and which so appropriately represented a just tribute to a great master and kind friend from a distinguished and favored pupil, were now to listen to a discourse which was so charged with various shades and descriptions of ridicule and invective as scarcely to be paralleled in the whole history of literary or scientific controversy. We have recently again perused the respective Lectures, and we are utterly at a loss to understand how the most sensitive mind could have found any thing in Mr. Abernethy's Lectures to call for such a "Reply." As it appears to us, its very virulence was calculated to weaken its force, and to enlist the sympathies of people on the opposite side. We again forbear quotation. All we have to do is to show

that circumstances of very unusual provocation, such as no man living could help feeling most deeply, and which bore on one who was acutely sensitive, never materially disturbed the native benevolence of Abernethy's disposition.

The dispute, however, soon merged into matters which the public regarded as more important. Mr. Lawrence, in the Lectures which followed, took occasion to make some remarks on the Scriptures which gave great offense, and led other writers to engage in a controversy of a theological rather than a physiological character. This, however, rather belongs to the writings and opinions of Mr. Lawrence than the life of Abernethy. We will at once offer the very few observations which we alone think it necessary to make, either in justice to Mr. Abernethy or the profession.

CHAPTER XX.

"Love all, trust a few,
Do wrong to none; be able for thine enemy
Rather in power than use; and keep thy friend
Under thine own Life's key; be check'd for silence,
But never tax'd for speech. What Heaven more will,
That thee may furnish, and my prayers pluck down,
Fall on thy head!"

ALL'S WELL THAT ENDS WELL.

In reviewing the facts of the foregoing controversy, we are anxious to restrict our remarks to such points as fall within the proper scope of our present object. These appear to us to relate to the mode in which Mr. Abernethy conducted his argument, as being legitimate or otherwise; secondly, the influence the whole affair

had in developing one of the most important features in his character; and, lastly, the impression it produced, for good or evil, on the public mind, in relation to our profession.

We would observe, in the first place, that the difficulty of Mr. Abernethy's position was very painful and peculiar. We are not learned in controversy, but we should imagine that position to have been almost without parallel. Mr. Lawrence had been his pupil. As we have seen, Mr. Abernethy had been his patron and his friend, and, moreover, he had been not a little instrumental in placing Mr. Lawrence in the Professor's chair. This instrumentality could not have been merely passive. Mr. Abernethy himself was not a senior of the Council at that time; at all events, he was associated at the College with men much older than himself, and must have owed any influence in the appointment to an active expression of his wishes, supported by that attention to them which, though not necessarily connected with his standing at the College, was readily enough, no doubt, conceded to his talents and his reputation. His singleness of mind in this business was the more amiable, because, had he been disposed to be inactive, there were not wanting circumstances which might not unnaturally have induced some hesitation on the subject. In the postscript at the end of Mr. Abernethy's published Lectures delivered at the College, we learn that, "From an early period of his studies, Mr. Lawrence had been accustomed to decry and scoff at what I taught as Mr. Hunter's opinions respecting life and its functions; yet," he adds, "as I never could find that he had any good reason for his conduct, I continued to teach them in the midst

of the controversy, and derision of such students as had become his proselytes," &c.

This could hardly have been very agreeable. The pupils were wont to discuss most subjects in their gossips in the Square of the hospital or elsewhere, and many a careless hour has not been unprofitably so employed. On such occasions, those who were so inclined would no doubt use ridicule or any other weapon that suited their purpose; and so long as any reasonable limits were observed, Mr. Abernethy was the last person likely to take notice of any thing which might have reached him on the subject. On the contrary, it was his excellence and his often-expressed wish that we should canvass every subject for ourselves, and he would enforce the sincerity of his recommendation by advising us with an often-repeated quotation,

"Nullius addictus jurare in verba magistri."

Still, we can not conceive that the desultory discussions at the Hospital, of which he might from time to time have accidentally heard, could have prepared him to expect that a similar tone was to form any portion of the sustained compositions of Lectures to be delivered in Lincoln's Inn Fields. When, however, he found his opinions ridiculed there by his friend and pupil, what was to be done? Was he to enter into a direct personal sort of controversy with his colleague in office at the College of Surgeons?

There was every thing in that course that was inexpedient and repulsive. Was he to be silent on opinions which he *knew* to have been Mr. Hunter's, and of the moral and scientific advantages of which he had a most matured conviction? That would have been a

compromise of his duty. It was a difficult dilemma —a real case of the

"Incidit in Scyllam qui vult vitare Charybdim."

If he avoided one difficulty, he fell into another. He tried to take a middle course: he argued in support of the opinions he had enunciated, and aided these by additional illustrations; and in contrasting them with those opinions which were opposed to him, he endeavored to avoid a personal allusion to individuals by arguing against a class which he termed the "band of modern skeptics." Even this was a little Charybdis, perhaps, because it had a sort of name-calling effect, while it was not at all essential thus to embody in any one phrase the persons who held opposite opinions.

His position was intensely difficult. It should be recollected that Abernethy had always been a teacher of young men; that he had always taught what he conceived to be principles of surgery deducible from those delivered by Hunter; that he further believed that, to understand Hunter clearly, it was necessary to have a correct notion of the idea Mr. Hunter entertained of "Life;" and, lastly, that in all his Lectures, Abernethy had a constant tendency to consider, and a habit of frequent appeal to what, under different forms, might be regarded as the moral bearings of any subject which might be under discussion. We readily admit that usually, in conducting scientific *arguments*, the alleged moral tendencies of this or that view are more acceptable when reserved to grace a conclusion than when employed to enforce an argument, yet we think that comparatively few persons would now think the discussion of any subject bearing on the physical

nature of Man complete which omitted the very intimate and demonstrable relations which exist between the moral and the physical laws.

The point, however, which we wish to impress is, that Mr. Abernethy, in pleading the moral bearings of his views by deductions of his own, was merely doing that which he had been in the habit of doing on most other questions—it was merely part of that plan on which, without the smallest approach at any attempt to intrude religious considerations inappropriately into the discussion of matters ordinarily regarded as secular, he had always inculcated a straightforward, free-from-cant, do-as-you-would-be-done-by tone in his own Lectures. This, while it formed one of their brightest ornaments, was just that without which all lectures must be held as defective which are addressed to young men about to enter an arduous and responsible profession.

Abernethy stated nothing as facts but which were demonstrably such; and with regard to any hypotheses which he employed in aid of explaining them, he observed those conditions which philosophers agree on as necessary, whether the hypotheses be adopted or otherwise. He did not do even this but for the very legitimate object of explaining the views of the man on whose labors he was discoursing.

When those views of Mr. Hunter, which had been thus set forth and illustrated, were attacked, he defended them with his characteristic ability; and although we will not undertake to say that the defense contains no single passage that might not as well have been omitted, we are not aware that, from the beginning to the end, it contains a single paragraph that

does not fall fairly within the limits that the most stringent would prescribe to scientific discussion.

The discussion of abstract principles is generally unprofitable. We think few things more clear than that we know not the intrinsic nature of any abstract principle; and although it would be presumptuous to say we never shall, yet we think it impossible for any reflecting student in any science to avoid perceiving that there are peculiar relations between the *laws* of nature and the human capacity which most emphatically suggest that the study of the one is the proper business and the prescribed limit to the power of the other.

Still, the poverty of language is such as regards the expression of natural phenomena, that necessity has obliged us to clothe the forces in nature with some attribute sufficiently in conformity with our ideas to enable us to give them an intelligible expression; and whether we talk of luminous particles, ethereal undulations, electric or magnetic fluids, matter of heat, &c., we apprehend that no one now means more than to give an intellectually tangible expression of certain forces in nature of which he desires to discourse, or to teach the habitudes they observe, or the laws which they obey. This is all we think it necessary to say on the scientific conduct of the argument by Abernethy.

The public have long since expressed their opinion on Mr. Lawrence's Reply and Lectures, and whatever may be regarded as their decision, we have no disposition to canvass or disturb it. There was nothing wonderful, however unusual, in a young man so placed, in a professsion like ours, getting into a controversy with a man of such eminence as Abernethy, particular-

ly on speculative subjects. There were in the present case, to be sure, very many objections to such a position; but these it was Mr. Lawrence's province to consider. On this and many other points, we have as little inclination as we have right, perhaps, to state our opinion. Nevertheless, we must not omit a few words in recognition of Mr. Abernethy's efforts, and a few observations on the conduct of the governing body of the College at that time. In the first place, we feel obliged to Mr. Abernethy for the defense he made on that occasion; not from the importance of any abstract theory, but from the tendency that his whole tone had to inculcate just views of the nature and character of the profession. But we can by no means acquit the Council of the College, at the time of the said controversy, of what we must conceive to have been a great neglect of duty. There is, among a certain class of persons, an idea that the medical profession are skeptical on religious subjects, and many of these persons are people of whom it is impossible not to value the respect and good opinion. We never could trace any *legitimate* grounds for the conclusion. On inquiry, it has always appeared to be nothing more than a "vulgar error," resting, as "vulgar errors" generally do, on general conclusions drawn by people who have deduced them from insufficient particulars.

Sometimes the persons indulging in this idea have known a medical man whom *they consider* to be unstable in his religious views; another knows that Mr. A. or B. never goes to church; sometimes even political differences have been held sufficient excuse for impugning the possessor of proper ideas on the all-important subject of religion. We have never been able to

procure any reasonable data on which they could, with any show of justice, support so serious an imputation. For our parts, we know not how the necessary data are to be obtained, and therefore should shrink from any attempt at any thing so presumptuous as to describe the religious character of any profession.

We have no means of obtaining the evidence necessary to support so serious and difficult a conclusion. The great bulk of our profession are general practitioners, and in forming opinions in regard to any class of men, we naturally look to the greatest number. So far as our own experience has gone, we can not find the slightest ground for the degrading imputation. Like all other medical men, their labors are incessant, the hours of recreation few and far between. In their requisitions on their time, the public regard neither night nor day, nor the Sabbath, when they require attention. Then, if we look to conduct as no unreasonable test of religion, we may, like all other professions, have blots. We have, in all grades, no doubt, it may be, our fee-hunters and our long-billed practitioners; but whether we regard the physician, surgeon, or general practitioner, we verily believe that there are no men in the kingdom who, as a body, conduct themselves more honorably; none who are less mercenary; who, in relation to their position, are less affluent—no bad test—or who do one tenth of the work which they do without any remuneration whatever.

With regard to the alleged absence from public worship, there may be (however explicable) some ground for the remark, and especially as no profession shows, in the general respectability of their conduct, a more

ready and respectful acquiescence in the established usages of mankind.

But let the question be fairly stated. How many medical men can go to church every Sunday, and to the same church, without a compromise of a paramount duty? We are ready to concede that the necessities which professional calls imperatively impose on so many occasions may have a tendency to form habits when impediments are less pressing, but is it not rather the exactions of the public than the choice of the profession which imposes the necessity? How many of the public would be satisfied, if they wished to see a professional man on any pressing occasion, and were told that he could not be seen for a couple of hours, as he was going to church?

Highly as we venerate the benign and beautiful ordinance of the Sabbath, important as we think it, on all accounts, that it should be observed with reverence and gratitude, still we should hesitate before we regarded the single act of attendance or absence on public worship a safe or charitable exposition of any man's religious stability. We therefore, as far as in us lies, repudiate the charge; we regard it as groundless; and think that, as no profession gives a more constant opportunity of constant awakening and keeping alive the best sympathies of our nature, so no profession can be more calculated to impress the fragile nature of the body, as contrasted with the immortal spirit which inhabits it, or the constant presence of that Power by whose laws they are governed. But groundless as we think the charge, we must contend that the apathy of the Council of the College, at the time Mr. Lawrence delivered the Lectures in question, was a serious neg-

lect of duty. In the Lectures in question, Mr. Lawrence spoke of the Old Testament in a tone which must, we think, be regarded as irrelevant to, or at least unnecessary, in a Course of Lectures on Comparative Anatomy.

We hold no sympathy with that sort of persecution with which several well-intentioned people visited the book, but we must always regard the Council of the time as having been neglectful of their duty. Lectures on Comparative Anatomy do not render it necessary to impugn the historical correctness or the inspired character of the Old Testament. What answer could private individuals make, or with what influence could they oppose the prejudices of the public in relation to the religious securities afforded by them in whom they confide, when they saw a young man allowed to introduce matter in lectures given to an audience composed of the most aged and eminent of the profession, as well as of many of those who were just commencing their studies—delivered, too, at the chartered College of the profession—matter which was not only not at all necessary to the most ample exposition of the subject, but which, as we have said, only alluded to the Old Testament in a manner calculated to weaken its authority as a historical document, and to impugn its inspired character?

Surely there was no more certain mode of giving an *ex cathedrâ* sanction to the unfavorable impressions of the public; impressions which tend to tarnish the lustre of a profession which founds its claims to respect on its kindly ministrations and unquestioned utility, and to arm a vulgar and unfounded prejudice with all the influence of Collegiate recognition. If, indeed, the

College had desired to support the alleged favorable tendency of Mr. Abernethy's views or the alleged opposite bearings of those to which he was opposed, they could hardly have done better than to have allowed of the irrelevant matter in question. But we have done. It is no part of our business to quote passages, or further to renew discussions long since passed away, than is necessary for our proper objects. But when we consider on how many points Abernethy must have been hurt, the very difficult and perplexing position in which he was placed, we can not too much admire the very measured tone he adopted throughout; or the evidently wounded feeling, but still dignified yet simple statement of the published Postscript to his Lectures; and though there had been no subsequent exemplification of his forgiving temper—which was not the case—we should still have felt obliged to regard the whole affair as indicative of great goodness of heart; and when all the circumstances of disappointment and vexation are duly weighed, of almost unexampled moderation.

It is just to Mr. Lawrence to observe that, some few years after this, the Governors of Bethlehem Hospital, on the annual (and usually formal) election of the surgeon, an office held by Mr. Lawrence, threw the appointment open to competition, on which occasion Mr. Lawrence published a letter expressing regret, in general terms, as to certain passages in the Lectures in question, and his determination not to publish any more on similar subjects. The coincidence of this letter with the threatened tenure of office of course gave rise to the usual remarks; but, if a man says he is sorry for a thing, perhaps it is better not to scan motives too closely. Mankind stand too much in need of what Burns sug-

gests, and with which we close this not very agreeable subject:

"Then gently scan your brother man,
Still gentler sister woman;
Though they may gang a kennin wrang,
To step aside is human."

CHAPTER XXI.

"And though they prove not, they confirm the cause,
When what is taught agrees with Nature's laws."
DRYDEN'S RELIG. LAICI.

PREFATORY REMARKS.

IN endeavoring to give some idea of Abernethy's manner in more sustained compositions, we have made some selections from the Lectures he delivered at the College of Surgeons. Without any pretensions to a critically faultless style, there always seemed to us to be a peculiar simplicity combined with a broad and comprehensive range of thought. Sometimes, too, he has almost a "curiosa felicitas" in the tone of his expressions, though this was more remarkable, we think, when he felt more free—that is, in his unrivaled teaching at the Hospital, of which we shall endeavor to give a more particular account. As we have before remarked, it is impossible to do full justice to Abernethy unless we were to publish his works with a running commentary, and we fear that in the selections we offer we have incurred a responsibility which we shall not properly fulfill. To convey the full, the suggestive merit of even some of the following passages, it would be necessary to state carefully the relation they bear

to the state of science, both chemical and physiological, at the time they were written, and the present.

The interest of the Lectures is so evenly distributed through the whole, that selection is very difficult; and being obliged to consider our limits, we have, in the absence of a better guide, selected the passages at random, as suggested by our own impressions of them. We therefore can only earnestly recommend the perusal of the Lectures themselves as equally entertaining and instructive to the general as well as the professional reader. The varied expression and manner, and his fine intellectual countenance, by which he imparted so much interest to his delivery on every subject he touched, will be considered in connection with his success in the art of lecturing, and to which these somewhat formal specimens may serve as an introduction.

THE APPARENT UNIVERSAL DISTRIBUTION OF SOME POWERFUL FORCE LIKE ELECTRICITY, MAGNETISM, &c.

"When, therefore, we perceive in the universe at large a cause of rapid and powerful motions of masses of inert matter, may we not naturally conclude that the inert molecules of vegetable and animal matter may be made to move in a similar manner by a similar cause?"

REPUDIATION OF AN OFTEN ALLEGED OPINION.

"It is not meant that electricity is life. There are strong analogies between electricity and magnetism, and yet I do not know that any one has been hardy enough to assert their absolute identity.* I only mean

* Oersted's experiments, which by some are regarded as identifying these powers, occurred in 1820, four or five years after the delivery of this Lecture.

to prove that Mr. Hunter's theory is verifiable, by showing that a subtile substance of a quickly, powerfully mobile nature seems to pervade every thing, and appears to be the life of the world, and therefore it is probable that a similar substance pervades organized bodies, and produces similar effects in them.

"The opinions which in former times were a justifiable hypothesis, seem to me now to be converted into a rational theory."*

IN RELATION TO MICROSCOPIC OBSERVATION.

"This general and imperfect sketch of the anatomy of the nervous system relates only to what may be discovered by our unassisted sight. If, by means of the microscope, we endeavor to observe the ultimate nervous fibres, persons in general are as much at a loss as when, by the same means, they attempt to trace the ultimate muscular fibres."†

ILLUSTRATION OF MOTION NOT NECESSARILY IMPLYING SENSATION.

"Assuredly motion does not necessarily imply sensation; it takes place where no one ever yet imagined there could be sensation. If I put on the table a basin containing a saturated solution of salt, and threw into it a single crystal, the act of crystalization would begin from the point touched, and rapidly and regularly pervade the liquor till it assumed a solid form. Yet I know I should incur your ridicule if I suggested the idea that the stimulus of salt had primarily excited the action, or that its extension was the effect of continuous sympathy. If, also, I threw a spark among gunpowder, what would you think were I to represent

* Anatom. Lect., i., p. 51. † Ibid., ii., p. 62.

the explosion as a struggle resentful of injury, or the noise as the clamorous expression of pain?"*

DIFFERENT NERVOUS SYSTEMS VARIOUSLY AFFECTED BY SIMILAR IMPRESSIONS.

"Thus the odor of a cat, or the effluvia of mutton, the one imperceptible, the other grateful to the generality of persons, has caused individuals to fall on the ground as though bereaved of life, or to have their whole frame agitated by convulsions. Substances which induce disease in one person or animal, do not induce disease in others."†

IMPORTANCE OF OPINIONS.

"Thinking being inevitable, we ought, as I said, to be solicitous to think correctly. Opinions are equally the natural result of thought and the cause of conduct. If errors of thought terminated in opinions, they would be of less consequence; but a slight deviation from the line of rectitude in thought may lead to a most distant and disastrous aberration from that line in action. I own I can not readily believe any one who tells me he has formed no opinion on subjects which must have engaged and interested his attention. Persons both of skeptical and credulous characters form opinions, and we have, in general, some principal opinion, to which we connect the rest, and to which we make them subservient, and this has a great influence on all our conduct. Doubt and uncertainty are so fatiguing to the human mind, by keeping it in continual action, that it will and must rest somewhere; and if so, our inquiry ought to be where it may rest most securely

* Anatom. Lect., ii., p. 84. † Ibid., ii., p. 85.

and comfortably to itself, and with most advantage to others.

"In the uncertainty of opinions, wisdom would counsel us to adopt those which have a tendency to produce beneficial actions."

INDEPENDENCE OF MIND ON LIFE AS ARISING OUT OF THE IDEA THAT LIFE WAS SUPERADDED TO ORGANIZATION—HIS DISPOSITION TO ALLEGORY.

"If I may be allowed to express myself allegorically with regard to our intellectual operations, I would say that the mind chooses for itself some little spot or district, where it erects a dwelling, which it furnishes and decorates with the various materials it collects. Of many apartments contained in it, there is one to which it is most partial, where it chiefly reposes, and where it sometimes indulges its visionary fancies. At the same time, it employs itself in cultivating the surrounding grounds, raising little articles for intellectual traffic with its neighbors, or perhaps some produce worthy to be deposited among the general stores of human knowledge. Thus my mind rests at peace in thinking on the subject of life as it has been taught by Mr. Hunter, and I am visionary enough to imagine that if these opinions should become so established as to be generally admitted by philosophers, that if they once saw reason to believe that life was something of an invisible and active nature *superadded* to organization, they would then see equal reason to believe that mind might be superadded to life as life is to structure. They would then, indeed, still further perceive how mind and matter might reciprocally operate on each other by means of an intervening substance.

Thus even would physiological researches enforce the belief which I say is natural to man, that in addition to his bodily frame he possesses a sensitive, intelligent, and *independent* mind—an opinion which tends in an eminent degree to produce virtuous, honorable, and and useful actions."*

ATTRACTIONS OF PHYSIOLOGY — THE NECESSITY OF EXAMINING BOTH HEALTH AND DISEASE A VERY IMPORTANT POINT JUST NOW, AS TESTING THE VALIDITY OF CERTAIN VIEWS OF LIEBIG AND OTHERS.

"No study can surely be so interesting as Physiology. While other sciences carry us abroad in search of objects, in this we are engaged at home, and on concerns highly important to us, in inquiring into the means by which 'we live, and move, and have our being.' To those, however, engaged in the practice of Medicine, the study of Physiology is indispensable, for it is evident that the nature of the disordered actions of parts or organs can never be understood or judiciously counteracted, unless the nature of their healthy actions be previously known.

"The study of Physiology, however, not only requires that we should investigate the nature of the various vital processes carried on in our own bodies, but also that we should compare them with similar processes in all the varieties of living beings; not only that we should consider them in a state of natural and healthy action, but also under all the varying circumstances of disorder and disease. Few, indeed, have studied Physiology thus extensively, and none in an equal degree with Mr. Hunter. Whoever attentively peruses his writings must, I think, perceive that he draws his

* Anatom. Lect., ii., p. 92.

crowds of facts from such different and remote sources as to make it extremely difficult to assemble and arrange them."*

OF DISORDER AND DISEASE.

"Disorder, which is the effect of faulty actions of *nerves*, induces disease, which is the consequence of faulty actions of the *vessels*. There are some who find it difficult to understand how similar swellings or ulcers may form in various parts of the body in consequence of general nervous disorder, and are all curable by appeasing and removing such general disorder. The fact is indisputable. Such persons are not so much surprised that general nervous disorder should produce local effects in the nervous and muscular systems, yet they can not so well understand how it should locally affect the vascular system. To me there appears nothing wonderful in such events, for the local affection is primarily nervous, and the vascular actions are consequent. Yet it must indeed be granted that there may be other circumstances leading to the peculiarities of local diseases with which, at present, we are unacquainted. Disorder excites to disease, and, when *important organs* become in a degree diseased, they will still perform their functions moderately well *if disorder* be relieved, which *ought to be the Alpha and Omega of medical attention.*"†

As we have seen in the early part of our narrative, he was one of the first to insist on the importance of Comparative Anatomy and Physiology, and, as we shall

* Physiol. Lect., i., p. 3. 1817.
† Introd. Lect., p. 117. 1815.

have to relate, most active in securing what has proved so greatly influential to its progress in this country (the appointment of Professor Owen). Yet he modestly ignores any positive pretensions which might be imputed to him from his endeavor to illustrate a Museum dealing so largely with Comparative Anatomy.

"Gratitude to the former of the Museum, and also to the donors of it, equally demand that its value and excellency should be publicly acknowledged and displayed, which consideration has goaded me on to undertake and imperfectly to execute a task for which I feel myself not properly qualified."

Here follows what is very candid in Abernethy and honorable to Mr. Clift, who had very many debtors who were less communicative.

"I cordially acknowledge that I have little acquaintance with the subject except what I derived from looking over the preparations in the Museum, from reading Professor Cuvier's Lectures, and from the frank and friendly communications of our highly praiseworthy conservator, Mr. Clift. Permit me to say, gentlemen, though many know it already, that Mr. Clift resided with Mr. Hunter, and was taught by him to exhibit anatomical facts in preparations; that he does credit to his excellent instructor; that he feels the same interest and zeal that his patron did for the improvement of this department of science; and that he possesses the same candor and simplicity of character."*

* Physiol. Lect., i., p. 14.

OF DEEP AND SUPERFICIAL THINKING.

"I now beg leave to add that there are many who think clearly who do not think deeply; and they have greatly the advantage in expressing themselves, for their thoughts are generally simple and easy of apprehension. Opinions immediately deduced from any series or assemblage of facts may be called primary opinions, and they become types and representatives of the facts from which they are formed, and, like the facts themselves, admit of assortment, comparison, and influence, so that from them we deduce ulterior opinions, till at length, by a kind of intellectual calculation, we obtain some general total, which, in like manner, becomes the representative and coefficient of all our knowledge with relation to the subject examined and considered."*

"In proportion to the pains we have taken in this algebraical process of the mind, and our assurance of its correctness, so do we contemplate the conclusion or consummation of our labors with satisfaction."

CHARACTERISTIC OF HIS INCLINATION TO THE LAW.

"Gentlemen (of the jury), I trust I can prove to your perfect conviction, by ample and incontrovertible evidence, that my client (John Hunter) died seized and possessed of very considerable literary property, the hard-earned gainings of great talent and unparalleled industry. It is, not, however, for the property that I plead, because already that is secured; it is fenced in; landmarks are set up; it is registered in public documents. I plead only for the restitution of a great and

* Physiol. Lect., i., p. 26.

accumulated income of reputation derivable from that property, which, I trust, you will perceive to be justly due, and will consequently award to my client and his country."*

OF MR. HUNTER—PROGRESS OF HIS MIND, &c.

"Believing that no man will labor in the strenuous and unremitting manner that Mr. Hunter did, and to the detriment of his own private interest, without some strong incentive, I have supposed that at an early period he conceived those notions of life which were confirmed by his future inquiries and experiments. He began his observations on the incubated egg in the year 1755, which must either have suggested or corroborated all his opinions with regard to the cause of the vital phenomena. He perceived that, however different in form and faculty, every creature was nevertheless allied to himself because it was a living being, and therefore he became solicitous to inquire how the vital processes were carried on in all the varieties of animal and even vegetable existence."

OF GENIUS AND JUDGMENT.

"In the progress of science, genius, with light and airy steps, often far precedes judgment, which proceeds slowly, and either finds or forms a road along which all may proceed with facility and security; but the *direction* of the course of judgment is often suggested, and its actions are excited and accelerated by the invocations of preceding genius."†

* Physiol. Lect., i., p. 16. † Ibid, i., p. 19.

REITERATION OF THE DENIAL THAT HE IDENTIFIED LIFE WITH ELECTRICITY.

"As Sir H. Davy's expériments fully prove that electricity may be superadded to, and that it enters into the composition of all those substances we call matter, I felt satisfied with the establishment of the philosophy of Mr. Hunter's views, nor thought it necessary to proceed further, but merely added, 'It is not meant to be affirmed that electricity is life.' I only mean to argue in favor of Mr. Hunter's theory by showing that a subtile substance of a quickly and powerfully mobile nature seems to pervade every thing, and appears to be the life of the world, and that therefore it is probable a similar substance pervades organized bodies, and is the life of these bodies. I am concerned, yet obliged to detain you by this recapitulation, because my meaning has been either misunderstood or misrepresented."*

CHEMISTRY OF LIFE.

"He (Mr. Hunter) told us that life was a great chemist, and, even in a seemingly quiescent state, had the power of resisting the operations of external chemical agency, and thereby preventing the decomposition of those bodies in which it resided. Thus seeds may lie buried far beneath the surface of the earth for a great length of time without decaying, but, being thrown up, they vegetate. Mr. Hunter showed us that this chemist, 'Life,' had the power of regulating the temperature of the substances in which it resides."†

* Physiol. Lect., i., p. 26. † Ibid., i., p. 27.

INTERESTING; ALSO SIGNIFICANT IN REGARD TO WHAT ARE PROBABLY THE REAL SOURCES OF ANIMAL HEAT, AND IN RELATION TO THE LUNGS, WHICH WE HAVE CONTENDED ARE REFRIGERATING AND NOT HEATING ORGANS.

"The progress of science since Mr. Hunter's time has wonderfully manifested that the beam, when dissected by a prism, is not only separable into seven calorific rays of different refrangibility, producing the iridescent spectrum, but also into calorific rays refracted in the greatest degree or intensity beyond the red color, and into rays not calorific, refracted, in like manner, to the opposite side of the spectrum beyond the violet color; and that the calorific and uncalorific rays produce effects similar to those occasioned by the two kinds of electricity, and thus afforded additional reasons for believing that subtile mobile substances do enter into the composition of all those bodies which the sun illumines or its beams can penetrate.

"Late observations induce the belief that even light may be incorporated in a latent state with animal substances, and afterward elicited by a kind of spontaneous separation by vital actions, or by causes that seem to act mechanically on the substance in which it inheres. All the late discoveries in science seem to realize the speculations of ancient philosophers, and show that all the changes and motions which occur in surrounding bodies, as well as those in which we live, are the effect of subtile and invisible principles existing in them or acting on them. Mr. Ellis, who, with such great industry and intelligence, has collated all the scattered evidences relative to the production of heat in living bodies, and added so much to the collected knowledge, seems to think that all the variations of

temperature in them may be accounted for by known chemical processes.

"Here, however, I must observe, that Mr. Hunter's opinion of life having the power of regulating temperature was deduced, not only from his own experiments, related in the 'Philosophical Transactions,' but also from observing that, in certain *affections of the stomach, the heat of the body is subject to great vicissitudes, while respiration and circulation remain unaltered;* and also that parts of the body are subject to similar variations, which appear inexplicable upon any other supposition than that of *local nervous excitement*, or torpor, or some similar affections of the vital powers of the part which undergoes such transitions."*

ALLEGED TENDENCIES OF A BELIEF ON THE INDEPENDENT NATURE OF MIND.

"It is equally apparent that the belief of the distinct and independent nature of mind incites us to act rightly from principle; to relieve distress, to repel aggression, and defend those who are incapable of protecting themselves; to practice and extol whatever is virtuous, excellent, and honorable; to shun and condemn whatever is vicious and base, regardless also of our own personal feelings and interests when put in competition with our duty."†

OF PHRENOLOGY.

"There is nothing in the assertions of Drs. Gall and Spurzheim contradictory to the results of general observation and experience. It is admitted that the superior intellectual faculties can and ought to control

* Physiol. Lect., i., p. 37. † Ibid., i., p. 51.

the inferior propensities. It is admitted that we possess organs which, nevertheless, may be inactive from general torpor or want of education. General observation and experience proclaim that susceptibility is the chief incentive to action; that it is the source of genius; and that the character of the man greatly depends on his education and habits. We educate our faculties; what is at first accomplished with difficulty, by repetition is easily performed, and becomes more perfect and established by habit. Trains of perceptions and thoughts also become firmly concentrated, and occur in succession. Even our feelings undergo the same kind of education and establishment. Casual feelings of good-will by repetition strengthen, and produce lasting friendships, while trivial sensations of disgust, in like manner, may occasion inveterate hatred."

ON THE SAME.

"Should the result of our general inquiries, or attention to the subjects proposed to us by Drs. Gall and Spurzheim, induce us to believe that the peculiarities of our feelings and faculties were the effects of variety of excitement, transmitted through a diversity of organization, they would tend to produce mutual forbearance and toleration. We should perceive how nearly impossible it must be that any persons should think and feel exactly alike upon any subject. We should not arrogantly pride ourselves on our own virtue and knowledge, nor condemn the errors and weakness of others, since they may depend upon causes which we can neither produce nor readily counteract. The path of virtue is plain and direct, and its object distinctly before us, so that no one can miss either who has res-

olution enough never to lose sight of them by adverting to advantages and allurements with which he may be presented on the one hand, or the menacings with which he may be assailed on the other. Yet no one, judging from his own feelings and powers, can be aware of the kind and degree of temptation or terror, or the seeming incapacity to resist them, which may have induced others to deviate. Now though, from the foregoing considerations, I am pleased with the speculations of Drs. Gall and Spurzheim, I am quite incompetent to give any opinion as to the probability of what they have suggested, because I see no mode by which we can with propriety admit or reject their assertions, except by pursuing the same course of investigations which they themselves have followed—a task of great labor and difficulty, and one which, for various reasons, I should feel great repugnance to undertake."*

Abernethy used to like very well to talk with Spurzheim, who resided for some time in this country. One day Abernethy, half seriously, half humorously said to Spurzheim, "Well, Doctor, where do you place the organ of common sense?" Spurzheim's reply certainly sustained the coincidence of phrenological deductions with those of experience. "There is no organ," said he, "for common sense, but it depends on the equilibrium of the other organs."

THEOLOGICAL APPLICATION OF ANATOMICAL FACTS.

"Therefore, from this least interesting part of anatomy, we derive the strongest conviction of there being

* Physiol. Lect., iii., p. 99.

design and contrivance in the construction of animals. Equal evidences of design and contrivance, and of adaptation of means to ends, may be observed in the construction of the frame-work, as I may call it, of other animals, as in that of man, which subject seems to me very happily displayed in Professor Cuvier's Lectures."*

"It was, however, the comparing the mechanism of the hand and foot that led Galen, who, they say, was a skeptic in his youth, to the public declaration of his opinion that intelligence must have operated in ordaining the laws by which living beings are constructed. That Galen was a man of a very superior intellect could be readily proved, were it necessary. I have often known the passage I allude to made a subject of reference, but not of quotation, and therefore I recite it on the present occasion, and particularly because it shows that Galen was not in the least degree tinctured with superstition. 'In explaining these things,' he says, 'I esteem myself as composing a solemn hymn to the great Architect of our bodily frame, in which I think there is more true piety than in sacrificing whole hecatombs of oxen or in burning the most costly perfumes; for, first, I endeavor from His works to know Him myself, and afterward, by the same means, to show Him to others, to inform them how great is His wisdom, goodness, and power.'"†

DISTINCTIVE CHARACTER OF LIVING BODIES.

"Those bodies which we call living are chiefly characterized by their powers of converting surrounding substances into their own nature, of building up the

* Physiol. Lect., iii., p. 151. † Ibid., iii., p. 152.

structure of their own bodies, and repairing the injuries they may accidentally sustain."*

IN REPUDIATION OF CRUELTY AND EXPERIMENTS ON ANIMALS.

Very important in our view. The objection was very new at that time, and has made very little way yet. We have referred to this subject before. Considering the period of these Lectures (nearly forty years ago), Abernethy's objections, though cautious, are very sound, and for him very positive. We know that he felt still more strongly.

"Mr. Hunter, whom I should not have believed to be very scrupulous about inflicting sufferings upon animals, nevertheless censures Spalanzani for the unmeaning repetition of similar experiments. Having resolved publicly to express my own opinion with respect to this subject, I choose the present opportunity to do it, because I believe Spalanzani to have been one of those who have tortured and destroyed animals in vain. I do not perceive that in the two principal subjects which he sought to elucidate, he has added any important fact to our stock of knowledge; besides, some of his experiments are of a nature that a good man would have blushed to think of, and a wise man ashamed to publish, for they prove no fact requiring to be proved, and only show that the aforesaid abbé was a filthy-minded fellow."

ON THE SAME.

"The design of experiments is to interrogate nature; and surely the inquirer ought to make himself acquainted with the language of nature, and take care to pro-

* Physiol. Lect., iv., p. 155.

pose pertinent questions. He ought further to consider the probable kind of replies that may be made to his inquiries, and the inferences that he may be warranted in drawing from different responses, so as to be able to determine whether, by the commission of cruelty, he is likely to obtain adequate instruction. Indeed, before we make experiments on sensitive beings, we ought further to consider whether the information we seek may not be attainable by other means. I am aware of the advantages which have been derived from such experiments when made by persons of talent, and who have properly prepared themselves, but I know that these experiments tend to harden the feelings, which often lead to the inconsiderate performance of them.

"Surely we should endeavor to foster and not stifle benevolence, the best sentiment of our nature, that which is productive of the greatest gratification both to its professor and to others. *Considering the professors in this place as the organs of the Court of the College* addressing its members, I feel that I act as becomes a senior of this institution while admitting the propriety of the practice under the foregoing restrictions; I, at the same time, express an earnest hope that the character of an English surgeon may never be tarnished by the commission of inconsiderate or unnecessary cruelty."*

A VERY EARLY EXCELLENCE OF ABERNETHY: EXCEEDINGLY NECESSARY AT ONE TIME IN RELATION TO THE ERRONEOUS NOTIONS ON WHICH ANATOMICAL INVESTIGATIONS WERE CONDUCTED; ADVANCING SCIENCE HAS FULLY CONFIRMED THE JUSTICE AND GOOD SENSE OF HIS REMARKS.

"To me, however, who confide more in the eye of reason than in that of sense, and would rather form

* Physiol. Lect., iv., p. 164.

opinions from analogy than from the imperfect evidence of sight, it seems too hasty an inference to conclude that in the minute animals there are no vessels nor other organization because we can not see them, or that polypes are actually devoid of vessels, and merely of the structure described, because we can discern no other. Were it, however, really so, such facts would then only show with how little and with what various organization life could accomplish its principal functions of assimilation, formation, and multiplication. Who has seen the multitudinous distribution of absorbing vessels, and all the other organization, which doubtless exists in the vitreous humor of the eye, than which no glass ever appeared more transparent or more seemingly inorganic? How strange is it that anatomists, above all other members of the community of science, should hesitate to admit the existence of what they can not discern, since they, more than all the rest, have such constant assurance of the imperfection and fallibility of sight?"*

REITERATION OF AN IMPORTANT AXIOM, QUITE NECESSARY AT THIS TIME TO THE CHEMICAL PHYSIOLOGISTS.

"Our physiological theories should be adequate to account for all the vital phenomena both in health *and disorder*, or they can never be maintained as good theories."†

OF RESPIRATION.—CAUTIOUS REASONING.—HAD ALL REASONED THUS, WE MIGHT HAVE ESCAPED MUCH UNSOUND THEORIZING ON THIS IMPORTANT PROCESS.

"Chemists have considered the change as contributory to the production of animal heat, which opinion

* Physiol. Lect., v., p. 203. † Ibid. v., p. 229.

may indeed be true, though the manner in which it produces such an effect has not, as yet, been explained. Mr. Hunter, who believed that life had the power of regulating temperature *independently of* respiration, says nothing of that process as directly contributing to such an effect. He says, 'Breathing seems to render life to the blood, and the blood conveys it to every part of the body,' yet he believes the blood derives its vitality also from the food. I am at a loss to know what chemists now think respecting heat, whether they consider it to be a distinct species of matter, or mere motion and vibration. Among the curious revolutions which this age has produced, those of chemical opinions have a fair claim to distinction; to show which, I may add, that a lady,* on her first marriage, was wedded to that scientific champion who first overthrew phlogiston, and established in its stead the empire of caloric; and after his decease, on her second nuptials, was united to the man who vainly supposed he had subverted the rule of caloric, and restored the ancient but long-banished dynasty of motion and vibration. In this state of perplexity, I can not, with prudence or probable security, advance one step further than Mr. Hunter has led me. I must believe respiration to be essential to life, and that life has the power, by its actions, of maintaining and regulating temperature."†

CHARACTERISTIC, BOTH AS TO ILLUSTRATION AND MORAL BEARING.

"Those of the medical profession must readily accord with the remark of Shakspeare, that such affections, which may well indeed be called 'master pas-

* Madame Lavoisier, whose celebrated husband was guillotined, afterward married Count Rumford. † Physiol. Lect., v., p. 237.

sions,' sway us to their mood in what we like or loathe; for we well know that our patients and ourselves, from disturbance of the nervous functions of the digestive organs producing such affections of the brain, may become irritable, petulant, and violent about trifles, or oppressed, morose, and desponding. Permit me, however, to add, that those of the medical profession must be equally apprised that when the functions of the mind are not disturbed by such affections, it displays great energy of thought, and evidence of established character, even in death. Have we not lately heard that the last words of Nelson were, 'Tell Collingwood to bring the fleet to an anchor?' Shakspeare has also represented Mercutio continuing to jest, though he was mortally wounded; the expiring Hotspur thinking of nothing but honor, and the dying Falstaff cracking his jokes on Bardolph's nose. I request you to excuse this digression, which I have been induced to make from perceiving that if such facts were duly attended to, they would prompt us to a more liberal allowance for each other's conduct under certain circumstances than we are accustomed to do, and also incite us to the more active and constant performance of the great business of human life, the education of the mind, for according to its knowledge and dispositions do we possess the ability of contributing to our own welfare and comfort, and that of others."*

* Lect., VI., p. 257

CHAPTER XXII.

ABERNETHY AS A TEACHER.

"Trace Science, then, with modesty thy guide,
First strip off all her equipage of pride,
Deduct what is but vanity or dress,
Or learning's luxury or idleness,
Or tricks, to show the stretch of human brain
Mere curious pleasure or ingenious pain."

Lecturing after a fashion is easy enough; *teaching* is a very different affair. The one requires little more than good information, some confidence, and a *copia verborum;* the other establishes several additional requisitions. These requisitions, when rendered comparatively easy by nature, are seldom perfectly matured without art and some careful study. The transmission of ideas from one mind to another, in a simple unequivocal form, is not always easy; but in teaching, the object is not merely to convey the idea, but to give a lively and lasting impression; something that should not merely cause the retention of the image, but in such connection as to excite another process, "thought."

There was no peculiarity in Abernethy more striking than the power he possessed of communicating his ideas, and of sustaining the interest of the subject on which he spoke. For this there is no doubt he was greatly indebted to natural talent, but it is equally clear that he had cultivated it with much care. His ability as a lecturer was, we think, unique. We never saw his like before—we hardly dare hope we shall again.

There is no doubt that a great part of his success depended on a facility of giving that variety of expression, and that versatility of manner, which falls within the province of what we must call dramatic; but then it was of the very highest description, in that it was perfectly natural. It was of that kind that we sometimes find in an actor, and which conveys the impression that he is speaking his own sentiments rather than those of the author. It is a species of talent which dies with its possessor, and can not, we think, be conveyed by description. Still there were many things in Abernethy that were observable, and such as could hardly have been acquired without study.

If we examine any lecturer's style, and ask ourselves what is his fault, we shall find very few in whom we can not detect one or more. When we do this, and then reflect on Abernethy, we are astonished to find how many he avoided. We shall endeavor to make this as intelligible as we can by citing some of the features which our attention to different lecturers has suggested.

Simplicity has struck us as a feature in lectures which, in some sense or other, is very commonly defective. Simplicity appears so important, that perhaps, by not a very illegitimate extension of its meaning, it might be made to include almost all the requisitions of this mode of teaching. Let us think of it in relation to language and illustration. In all sciences the *facts* are simple, the laws are yet *more so;* increasing knowledge tends to impress on us an ever-increasing and comprehensive simplicity. In explaining simple things, no doubt language should be simple too. If we employ language unnecessarily technical, we use

symbols to which the learner is unaccustomed. He has not to learn the facts only, but he has the additional labor of something allied to learning it in a foreign language. The unnecessary use of technicalities should surely be avoided. Abernethy was obliged to use them because there were often no other terms, but he always avoided any needless multiplication of them. When they were difficult or objectionable, he tried some maneuver to lighten the repulsiveness of them.

There are many muscles in the neck with long names, and which are generally given with important parts of surgical anatomy. Here he used to chat a little; he called them the little muscles with the long names; but he would add, that, after all, they were the best named muscles in the body, because their names expressed their attachments. This gave him an excuse for referring to what he had just described, in the form of a narrative rather than a dry repetition. Then, with regard to one muscle that he wished particularly to impress, the name of which was longer than any of the others, he used to point it out as a striking feature in all statues; and then, repeating its attachments, and pointing to the sites which they occupied, say it was impossible to do so without having the image of the muscle before us.

In other parts of the Lectures, he would accompany the technical name by the popular one. Thus he would speak of the pancreas, or sweet-bread; cartilage, or gristle: few people are aware how many difficulties are smoothed by such simple maneuvers. Nothing interests people so much as giving any thing *positive*. We think it not improbable that many a man has heard a lecture in which animals have been

described, with whose habits he had been perfectly familiar, without having recognized his familiar acquaintances in the disguise afforded by a voluminous Greek compound. Abernethy seemed always to lecture, not so much as if he was telling us what he *knew*, as that which we did *not* know. There was an absence of all display of any kind whatever.

To hear some lecturers, one would almost think that they adopted the definition of language which is reported of Talleyrand, that it was intended to conceal our ideas. Some make simple things very much otherwise by the mode of explaining them. This reminds us of a very worthy country clergyman in the west of England, who, happening to illustrate something in his sermon by reference to the qualities of pitch, thought he should help his rustic congregation by enlarging a little on the qualities of that mineral. He accordingly commenced by saying, "Now, dear brethren, pitch is a bituminous substance," rather a difficult beginning, we should think, to have brought to a successful conclusion.

Sometimes we have heard a very unnecessary catalogue of technicalities joined with several propositions in one sentence. It is hardly to be imagined how this increases the difficulty to a beginner, while it impresses the excellence of that simplicity and clearness which were so charming in Abernethy. We give an example of this defect: the lecturer is describing the continuation of the cuticle over the eyes of the crustacea, as lobsters, crabs, &c. "The epidermis (the cuticle) in the compound eyes of the crustacea passes transparent and homogeneous over the external surface of the thick layer of the prismatic corneæ, which

are here, as in insects, generally hexagonal, but sometimes quadrangular; and to the internal ends of the prismatic corneæ are applied the broad bases of the hard, tapering transparent lenses, which have their internal truncated apices directed to the retinal expansions of the numerous optic nerves."

The high respect we entertain for the lecturer here alluded to withholds us from attempting to supply a more homely version of the foregoing passage. But what an idea this must give to a student who reads it in "the outlines" of a science of which he is about to commence the study. There is nothing whatever difficult in the ideas themselves, but what a bristling *chevaux-de-frise* of hard words—what a phalanx of propositions! We fear we should never arrive at the knowledge of many of those beautiful adaptations which all animals exemplify, if we had to approach them by such a forbidding pathway.

As contrasted with simple facts thus obscured by an unnecessary complexity of expression, we may see in Abernethy how a very comprehensive proposition may be very simply expressed. Take almost the first sentence in his Surgical Lectures, the germ, as it were, of a new science: "Now I say that local disease, injury, or irritation may affect the whole system, and conversely that disturbance of the whole system may affect any part."

We have sometimes thought that lecturers who have had several desirable qualifications have materially diminished the attraction of them by faults which we hardly know how to designate by a better term than vulgarity, ill breeding, or *gaucherie*. Now Abernethy had, in the first place, that most difficult thing to ac-

quire, the appearance of perfect ease without the slightest presumption. Some lecturers appear painfully "in company;" others have a self-complacent assurance, that conveys an unfavorable impression to most well-bred people. Abernethy had a calm, quiet sort of ease, with that expression of thought which betokened respect for his task and his audience, with just enough of effort only to show that his mind was in his business.

He had no offensive tricks. We have known lecturers who never began without making faces, others who intersperse the lecture with unseemly gesticulations. Some, on the most trivial occasion, as referring to a diagram, are constantly turning their backs completely to the audience. This is, we know, disagreeable to many people, and unless a lecturer is very clear and articulate, occasionally renders his words not distinctly audible. Even in explaining diagrams it is seldom necessary to turn quite round; the smallest inclination toward the audience satisfies the requisitions of good breeding, and reminds them agreeably of a respect with which they never fail to be pleased, and of the lecturer's self-possession. There are indeed occasions when the lecturer had better turn a little aside.

Not long ago we heard a very sensible lecturer and a very estimable man produce an effect which was rather ludicrous—a very inconvenient impression when not intended. He had been stating very clearly some important facts, and he then observed: "The great importance of these facts I will now proceed to explain to you," when he immediately began to apply the pocket-handkerchief he had in his hand most elaborately to his nose, still fronting the audience. It had the most

ridiculous effect, and followed so closely on the preceding remark as to suggest to the humorously inclined that it was part of the proposed explanation.

Some think it excusable to cast their eyes upward with an expression of intense thought, or even to carry their hands to their heads or forehead for the same purpose. But this conveys a painful feeling to the audience, whose attention to the subject is apt to be diverted by sympathy with the apparent embarrassment of the lecturer. Sometimes it conveys the impression of affectation, which, of course, is one form of vulgarity.

Abernethy was remarkably free from any thing of the kind. The expression of his countenance was in the highest degree clear, penetrative, and intellectual, and his long but not neglected powdered hair, which covered both ears, gave altogether a philosophic calmness to his whole expression that was peculiarly pleasing. Then came a sort of little smile, which mantled over the whole face, and lighted it up with something which we can not define, but which seemed a compound of mirth, archness, and benevolence.

The adjustment of the quantity of matter to the time employed in discussing it is an important point in teaching. A lecture too long is not worse than a lecture too full. If the matter is spread too thinly, the lecture is bald and uninteresting, and apt to fall short of representing any integral division of a subject; if it be too thick, it is worse, for then all is confused and difficult. A man's brain is like a box packed in a hurry; when all is done, you neither know what you have got nor what you have forgotten.

Here, again, Abernethy was in general very happy. Various circumstances would sometimes indeed, in the

Anatomical Course, oblige him to put more into one lecture than was usual, but he had always, in such a case, some little maneuver to sustain the attention of his audience. No man ever carried the *ars est celare artem* to so successful a point. Every thing he did had its object, every joke or anecdote its particular errand, which was, in general, most effectively fulfilled.

The various ways in which Abernethy managed to lighten up the general lecture, or to illustrate single points, can hardly be conveyed by selection of particular examples. There was a sort of running metaphor in his language, which, aided by a certain quaintness of manner, made common things go very amusingly. Muscles which pursued the same course to a certain point were said to travel sociably together and then to "part company." Blood-vessels and nerves had certain habits in their mode of distribution contrasted in this way; arteries were said to *creep* along the sides or between muscles. Nerves, on the contrary, were represented as penetrating their substance "*without ceremony.*" Then he had always a ready sympathy with his audience. If a thing was difficult, he would, as we have said, anticipate the feelings of the student. This is always encouraging, because, when a student finds a point difficult, if he is diffident merely, he is depressed; if he is lazy, he finds too good an excuse for it.

His illustrations were usually drawn from some familiar source, and if they were calculated to impress the fact, he was not very scrupulous whence he drew them. This would sometimes lead him into little trippings against refinement, but these were never wanton; every thing had its object, from the most pathetic tale down to the smallest joke. When the thing to be im-

pressed was not so much single facts or propositions as a more continued series, he had an admirable mode of pretending to con over the lecture in a manner which he would first recommend students to do, something after this fashion: "Let me see, what did he say?" "Well, first he told us that he should speak of Matter in general; then he said something about the laws of Matter, of inertia, &c." "Well, I did not understand much of that, and I don't think he knew much about it himself," and so on. There would now be a general smile, the attention of the class would be thoroughly alive, and then he would, in this conning over, bring forward the points he most wished to impress of the whole lecture. A very striking proof of how much power he had in this way came out in a conversation I had with Dr. Thomas Rees. This gentleman knew Abernethy well, and in kindly answering some inquiries I made of him, he spoke of his power in lecturing. Among other things, he said, "The first lecture I ever heard him give impressed me very much; I thought it admirable. His skill appeared so extraordinary. At the conclusion of the lecture," said Dr. Rees, "he proposed to the students to con over the lecture, which he proceeded to do for them." Dr. Rees then continued repeating the heads of the lecture, and this after at least thirty, perhaps forty years.

Lecturers will illustrate sometimes a point by something more difficult still, or something drawn from another branch of science. Sometimes the illustrations are so lengthy, or even important, that a pupil forgets *what principle* it was that was *to be illustrated.* When we are desirous of learning something about water or air, it is painful for a pupil to be "reminded" of the

"properties of angles," which it is an even chance he never knew. It is equally uncomfortable to many an audience, in lectures on *other subjects*, to have the course of a cannon-ball, which three pieces of string would sufficiently explain for mere purposes of illustration, charged with the "laws of projectiles," the "composition of forces," &c. We are, of course, not thinking of learn*ed*, but of learn*ing* audiences; to the former, lectures are, of course, of no use; but we allude to learners of mixed information and capacity—like young men who have been residing with medical men in the country—who come to a lecture for information, and who require to be interested in order that they may be instructed. Abernethy's illustrations were always in simple language. Rough ridden sometimes by a succession of many-footed Greek compounds, the mind of a student loves to repose on the refreshing simplicity of household phrases.

Abernethy had stories innumerable. Every case almost was given with the interest of a tale, and every tale impressed some lesson or taught some relation in the structure, functions, or diseases of the body. We will give one or two, but their effect lay in the admirable manner in which they were related.

If he was telling any thing at all humorous, it would be lighted up by his half shut, half smiling, and habitually benevolent eye. Yet his eye would easily assume the fire of indignation when he spoke of cruelty or neglect, showing how really these things were repulsive to him. Then his quiet, almost stealthy, but highly dramatic imitation of the manner of some singular patient; his equally finished mode of expressing pain, in the subdued tone of his voice; and then, when

something soothing or comfortable was successfully administered, his "Thank you, Sir, thank you, that is very comfortable," was just enough always to interest and never to offend. Now and then he would sketch some patient who had been as hasty as he himself was sometimes reported to be. "Mr. Abernethy, I am come, Sir, to consult you about a complaint that has given me a great deal of trouble." "Show me your tongue, Sir. Ah, I see, your digestive organs are very wrong." "I beg your pardon, Sir, there you are wrong yourself; I never was better in all my life," &c. All this, which is nothing in telling, was delivered in the half serious, half Munden-like, humorous manner, and yet so subdued as never to border on vulgarity or farce.

His mode of relating cases which involved some important principle, showed how really interested he had been in them. A gentleman having recovered from a very serious illness after having failed a long time in getting relief, was threatened by the influence of the same causes with a return of his malady. "He thought," said Abernethy, "that if he did not drink deeply, he might eat like a glutton." He lived in the country, and Mr. Abernethy one day went and dined with him. "Well," said Mr. Abernethy, "I saw he was at his old tricks again; so, being a merchant, I asked him what he would think of a man who, having been thriving in business, had amassed a comfortable fortune, then went and risked it all in some imprudent speculation?" "Why," said the merchant, "I should think him a great ass." "Nay, then, Sir," said Abernethy, "thou art the man."

On another occasion, a boy, having suffered severely

from disease of the hip, Abernethy had enjoined his father to remove him from a situation which he was unfitted to fill, and which, from the exertion it required, would expose him to a dangerous recurrence of his complaint. The father, however, put the boy back to his situation; one day Abernethy met both father and son in Chancery Lane, and he saw the boy, who had a second time recovered, again limping in his walk. After making the necessary inquiry, "Sir," said he to the father, "did I not warn you not to place your son in that situation again." The father admitted the fact. "Then, Sir," said Abernethy, "if that boy dies, I shall be ready to say you are his murderer." Sure enough, the boy had another attack, and did die in a horrible condition.

This story, and others of a similar kind, were intended to impress the paramount importance of keeping diseased parts, *and joints especially*, in a state of perfect repose, and to prevent recurrence of disease by avoiding modes of life inappropriate to constitutions which had exhibited a tendency to this serious class of diseases.

He was remarkably good on the mode of detecting and managing accidents, fractures, and dislocations. In regard to the latter, he had many very good stories, of which we will presently cite a ludicrous example. He could, however, throw in pathos with admirable skill when he desired it. The following lamentable case, he used to tell to an audience singularly silent. He is speaking of the course of a large artery.

"Ah," said he, "there is no saying too much on the importance of recollecting the course of large arteries; but I will tell you a case. There was an officer in the

navy, and as brave a fellow as ever stepped, who in a sea-fight received a severe wound in the shoulder, which opened his axillary artery. He lost a large quantity of blood, but the wound was stanched for the moment, and he was taken below. As he was an officer, the surgeon, who saw he was wounded severely, was about to attend to him before a seaman who had been just brought down. But the officer, though evidently in great pain, said, 'Attend to that man, Sir, if you please; I can wait.' Well, his turn came; the surgeon made up his mind that a large artery had been wounded, but, as there was no bleeding, dressed the wound, and went on with his business. The officer lay very faint and exhausted for some time, and at length began to rally again, when the bleeding returned; the surgeon was immediately called, and not knowing where to find the artery, or what else to do, told the officer he must amputate his arm at the shoulder joint. The officer at once calmly submitted to this additional but unnecessary suffering, and as the operator proceeded, asked if it would be long; the surgeon replied that it would be soon over; the officer rejoined, 'Sir, I thank God for it!' but he never spake more."

Amid the death-like silence of the class, Abernethy calmly concluded, "I hope you will never forget the course of the axillary artery."

His position was always easy and natural, sometimes homely, perhaps. In the Anatomical Lecture he always stood, and either leaned against the wall, with his hands folded before him, or resting one hand on the table, with the other perhaps in his pocket. In his Surgical Lecture he always sat, and very generally with one leg resting on the other.

He was particularly happy in a kind of coziness, or friendliness of manner, which seemed to identify him with his audience—as if we were all about to investigate something interesting *together*, and not as if we were going to be "Lectured at" at all. He spoke as if addressing each individual, and his discourse, like a happy portrait, always seemed to be looking you in the face. On very many accounts, the tone and pitch of the voice in lecturing are important. First, that it may not be inaudible, and yet not too loud. The one defeats the whole object, the other is apt to give an impression of vulgarity. We recollect a gentleman who was about to deliver a lecture in a theatre to which he was unaccustomed; he was advised to ascertain the loudness required, and to place a friend in the most distant part, to judge of its fitness; but he declined it as unnecessary. When he had given the lecture, which was a very good one on a very interesting subject, he was much mortified in finding that he had been inaudible to at least one half of the audience.

Abernethy was very successful in this respect. His voice seldom rose above what we may term the conversational, either in pitch or tone; it was, in general, pleasing in quality, and enlivened by a sort of archness of expression. His loudest tone was never oppressive to those nearest to him, his most subdued audible every where. The range of pitch was very limited; the expression of the eye and a slight modulation being the media by which he infused through the lecture an agreeable variety, or gave to particular sentiments the requisite expression. There was nothing like declamation; even quotations were seldom louder than would have been admissible in a drawing-room. We have

heard lecturers whose habitually declamatory tone has been very disagreeable, and this seldom fails to be mischievous. A declamatory tone tends to divert the attention, or to weary it when properly directed. On almost every subject it is sure to be the source of occasional bathos, which now and then borders on the ridiculous. Conceive a man describing a curious animal in the diagram, saying, "This part, to which I now direct my rod, is the point of the tail," in a sepulchral tone and heavy cadence, as if he had said, "This is the end of all things." Another inconvenience often attending a declamatory tone, as distinguished from the narrative or descriptive, is the tendency it has to make a particular cadence. Sometimes we have heard lecturers give to every other sentence a peculiar fall; and this succession of rhythmical samenesses, if the lecturer be not otherwise extremely able, sends people napping.

Another fault we observe in some lecturers is a reiteration of particular phrases. In description it is not easy always to avoid this, but it seldom occurred in any disagreeable degree in Abernethy. We have heard some lecturers, in describing things, continually reiterating such phrases as "We find," "It is to be observed," in such quick and frequent succession, that people's sides began to jog in spite of them.

Provincial or national idiom, or other peculiarity, is by no means uncommon, and generally more or less disagreeable. Abernethy was particularly free from either. He could, in telling stories, slightly imitate the tone and manner of the persons concerned; but it was always touched in, in the lightest possible manner, and with the subdued coloring and finish of a first-rate artist. His power of impressing facts, and of rendering

them simple and interesting by abundance and variety of illustration, was very remarkable, and had the effect of imparting an interest to the driest subject. In the first place, he had an agreeable mode of sympathizing with the difficulty of the student. If he were about to describe a bone, or any thing which he knew to be difficult, he would adopt a tone more like that in which a man would teach it to himself than describe it to others. For example, he would say, perhaps, "Ah! this is a queer-looking bone; it has a very odd shape, but I plainly perceive that one may divide it into two parts." Then, pointing with a probe to the division he proposed, he would begin, not so much to *describe* as to *find*, as if for the first time, the various parts of which he wished to teach the names and uses; the description being a kind of running accompaniment to his tracing of the bone, and in a tone as if half talking to himself and half to the audience.

Every one feels the importance of order and clearness of arrangement. Of Abernethy's, we have spoken generally in the early part of this volume; simplicity and impressing the more important facts were the main objects. He showed very frequently his perception of the importance of order, and would often methodize for the students. He knew very well that A B C was much more easily remembered than Z J K, and he would sometimes humorously contrast the difference between a man whose knowledge was well packed, and one whose information was scattered and without arrangement. This he usually did by supposing two students under examination. The scene would not *tell* upon paper, but it never failed to create a good deal of mirth in the theatre, during which he would

contrive to repeat the facts he meant to impress, without the tedium of mere reiteration.

Various people have been more or less deeply impressed with different parts of his lectures, most persons having their favorite passages. In his anatomical course we were never more pleased than by his *general* view of the structure of the body. He adopted on that occasion the synthetical plan, and put in imagination the various parts together which were to be afterward taught analytically. In his surgical course, the manner in which he illustrated the practical points, and his own views in the "Eventful History of a Compound Fracture," was, we think, the most successful triumph both as to matter and manner which we have ever witnessed.

An abundance of resource and maneuvers of the kind we have mentioned gave a great "liveliness" to his lecture, which, *in its quiet form, so as not to divert or disturb*, is a great difficulty in lecturing.

We have heard an excellent lecturer, whose only fault, we think, was want of liveliness and variety. Few men could in other respects lecture comparably to him. Nothing could surpass the quiet, polished manner of this accomplished teacher. His voice, though not good, was by no means unpleasing; his articulation elaborately distinct, and free from all provincialism; his language always correct and appropriate; the structure of his sentences strikingly grammatical; and they fell in such an easy, though somewhat too rhythmical succession, as to be at once graceful and melodious; his arrangement always simple and clear. Nothing was more striking than the deferential manner in which he approached a philosophical subject.

"I like ——," said one who had often heard him, "because he is always so gentlemanly. There is nothing off-hand, as if he thought himself very clever, but a kind of unaffected respect for himself and his audience, which obliges one to pay attention to him, if it were only because you feel that a man of education is speaking to you."

What, it may be said, can such a man want? Why, he wanted liveliness and flexibility. His voice measured forth its gentlemanly way with all the regularity of a surveying rod. Various and interesting as his subjects were, and handled with consummate ability, he must certainly have *taught;* yet we think he sent away many of his audience passive recipients, as distinguished from persons set on thinking what they had heard "into their own."

He performed his task like a good man and a scholar, but still it was like a task after all. It was something like a scholar reading a book, always excepting the beautifully clear illustrations for which his subject gave him abundant opportunity. He wanted that animation and interest in his subject by which a lecturer inoculates you with his own enthusiasm. He was the most striking example in our experience of the importance of liveliness and variety, and of making a lecture, however well delivered, just that thing which we *can not* find in a book. The life-like, the dramatic effect was wanting; and it was to this alone that we can ascribe what we have not unfrequently observed in the midst of a generally attentive audience, a few who were "nodding" their assent to his propositions.

Now Abernethy's manner was perfect in these respects. He had just got the "cheerfully, not too fast"

expression that we sometimes see at the head of a musical composition. His manner was so good that it is difficult to convey any idea of it. It was easy without being negligent; cheerful without being excited; humorous, often witty, without being vulgar; expeditious without being in bustle; and he usually took care that you should learn *the thing* before he gave the *name of it*, and understand it before he expatiated on the beauty or perfection of its adaptation to the ends it seemed designed to serve.

He was particularly chaste in the manner in which he spoke of design, or other of the Attributes so frequently observable in natural arrangements. It is a great mistake, we think, and not without something akin to vulgarity, to usher in any description of the beauties of nature by a flourish of such trumpets as human epithets form—mere notes of admiration—Nature speaks best for herself. The mind is kept in a state of excitement by too frequent *feux de joies* of this kind; the frequent recurrence of such terms as "curious! strange! wonderful!" on subjects where all is wonderful, have a sort of bathos in the ears of the judicious, while to the less critical they produce a sort of disturbed atmosphere, which is unfavorable to the calm operations of the intellect.

Abernethy was generally very careful in these matters. I give one example. He is speaking of cartilage, or gristle, which covers the ends of the bones where they form joints, and has explained its great elasticity, the use of it in preventing jarring, and contrasted the *springiness* of youth with the easily-jarred frame of age. "Well," he adds, "this cartilage is fibrous, and they say that the fibres are arranged vertically, so that

the body may be said to be supported on '*myriads of elastic columns.*'" That was the beauty by which he wished to impress that which he had previously *taught*.

When marvelousness is too much excited, many say, "Ah, how clever that gentleman is! what an interesting lecture! what a curious thing that was he showed us!" but when you inquire what principle or law was intended to be illustrated, you find that the sensual or imaginative faculty has alone been excited, and has galloped off with that which was intended for the intellect. If persons are examined as to a particular point of the lecture, they are apt to say, "Well, that is just what I wanted to know; would you explain it?"

It would seem that it is a great mistake to excite marvelousness on our external senses very vividly when we desire to concentrate the intellectual faculties. That breathless silence, with eyes and mouth open, that "*intenti que ora tenebant*" condition, excited by marvelousness, is very well for the story of Æneas or Robinson Crusoe, but it is out of place when we are endeavoring to augment our intellectual possessions.

We require, in fact, a calmer atmosphere. The desire to interest and hold the attention of our audience is so natural, that it is very apt to escape one that this may be done on terms not consistent with our real object, the interesting the intellect; and this fault is perhaps, of all, the worst, because it is never a greater failure than when it appears to be successful. All other faults in lecturing, if serious in one respect, tell their own tale in the thinning audience.

The learned author of the "Philosophy of Rhetoric" has observed, "A discourse directed to the understanding will not admit of an address to the passions, which,

as it never fails to disturb the operation of the intellectual faculty, must be regarded by every intelligent hearer as foreign indeed, if not insidious." He had before said "that in such a discourse you may borrow metaphor or comparison to illustrate it, but not the bolder figures, prosopopœia and the like, which are intended, not to elucidate the subject, but to *create admiration*."

"It is obvious," he continues, "that either of the foregoing, far from being subservient to the main design (to address the intellect), serves only to distract the attention from it."*

The learned author, however, in the first sentence, makes a distinction which requires, perhaps, to be received with some caution.

There is no discourse that is solely intellectual; the driest mathematical proposition interests our feelings. The pleasure of truth, what is that? Not merely intellectual, certainly. It is a pleasure derived *from* the intellect, no doubt, but it is a *feeling* entirely distinct. So, in addresses to the passions, if they are successful, the presiding influence of the intellect is very obvious; this away, a discourse soon merges into bombast or fustian, a something which neither impresses the feelings nor the passion as desired.

The true desideratum, as it appears to us, is accuracy of adjustment, not separation. In intellectual operations, the feelings are to be subservient to the accomplishment of the objects of the intellect. In discourses where the passions or feelings are most appealed to or most prominent, the intellect must still really guide, though it may appear to follow.

Notwithstanding that so much of Abernethy's lec-

* Vol. i., p. 23.

turing was on anatomy, and therefore necessarily addressed to the eye, yet he seldom offered any illustration to the external senses. He was always endeavoring to impress the mechanical relations of parts by reference to their uses and surgical relations. Even in speaking of light, he would be suggestive beyond the mere perception of sense. He used to say of refraction of light, when the refracting medium was, as it commonly is, the denser body, "that the ray seems as if attracted," a very suggestive phrase to any one who has thought much on the subject of light. It is a curious thing to observe how confused the ideas of many people are on the phenomena of light, and we are afraid that the cause is that the illustrations to the eye are given *too soon*. If people were made to *understand* by a simple illustration what they are about to *see*, it is probable they would have much clearer ideas. The intellect having gone before, the eye no longer diverts it from its office; and the eye would then be merely *impressing*, by means of a physical representation, an established idea.

CHAPTER XXIII.

"Suavis autem est et vehementer sæpe utilis jocus et facetiæ."—Cic., De Orat.

Abernethy's humor was very peculiar, and though there was, of course, something in the matter, there was a great deal more, as it appeared to us, in the manner. The secret of humor, we apprehend, lies in the juxtaposition, either expressed or implied, of incongruities, and it is not easy to conceive any thing humor-

ous which does not involve these conditions. We have sometimes thought there was just this difference in the humor of Abernethy, as contrasted with that of Sidney Smith. In Smith's there was something that, told by whom it might be, was always ludicrous. Abernethy's generally lay in the telling.

> "The jest's propriety lies in the ear
> Of him who hears it, never in the tongue
> Of him that makes it,"

although true, was still to be taken in rather a different sense from that in which it is usually received. The former (a far higher species of humor) may be recorded; the dramatic necessities of the other occasion it to die with the author. The expression Abernethy threw into his humor (though of course without that broadness which is excusable in the drama, but which would have been out of place in a philosophical discourse) was a quiet, much-subdued coloring between the good-nature of Dowton and (a little closer, perhaps, to the latter) the more quiet and gentlemanly portions of Munden.

Few old pupils will forget the story of the Major who had dislocated his jaw.

This accident is a very simple one, and easily put right; but, having once happened, is apt to recur on any unusual extension of the lower jaw. Abernethy used to represent this is as a frequent occurrence with an hilarious Major; but as it generally happened at mess, the surgeon went round to him and immediately put it in again. One day, however, the Major was dining about fourteen miles from the regiment, and in a hearty laugh out went his jaw. They sent for the medical man, whom, said Abernethy, we must call the

apothecary. Well, at first he thought that the jaw was dislocated; but he began to pull and to show that he knew nothing about the proper mode of putting it right again. On this the Major began to be very excited, and vociferated inarticulately in a strange manner, when, all at once, the doctor, as if he had just hit on the nature of the case, suggested that the Major's complaint was on his brain, and that he could not be in his right mind. On hearing this the Major became furious, which was regarded as confirmatory of the doctor's opinion; they accordingly seized him, confined him in a strait-waistcoat and put him to bed, and the doctor ordered that the barber should be sent for to shave the head, and a blister be applied "to the part affected."

The Major, fairly beaten, ceased making resistance, but made the best signs his situation and his imperfect articulation allowed for pen and paper. This being hailed as indicative of returning rationality, was procured; and as soon as he was sufficiently freed from his bonds, he wrote, "For God's sake, send for the surgeon of the regiment." This was accordingly done, and the jaw readily reduced, as it had been often before. "I hope," added Abernethy, "you will never forget how to reduce a dislocated jaw."

We think what we have said of the style of his humor must be not very incorrect, from knowing that one of his oldest pupils and greatest admirers made a remark almost identical with the foregoing. I recollect it being said of John Bannister that the reason his acting pleased every body was that he was always a gentleman; an extremely difficult thing, we should imagine, in handling some of the freer parts of our comic

dialogues Abernethy's humor (exceptionally indeed, but occasionally a little broad) never suggested the idea of vulgarity; and, as we have said, every joke had its mission. Then, at times, though there was not much humor, yet a promptness of repartee gave it that character.

"Mr. Abernethy," said a patient, "I have something the matter, Sir, with this arm. There, oh! (making a particular motion with the limb), that, Sir, gives me great pain." "Well, what a fool you must be to do it, then," said Abernethy.

One of the most interesting facts in relation to Abernethy's lecturing was that, however great his natural capacity, he certainly owed very much to careful study and practice; and we can not but think that it is highly encouraging to a more careful education for this mode of teaching to know the difficulty that even such a man as Abernethy had for some few years in commanding his self-possession. To those who only knew him in his zenith or his decline, this will appear extraordinary; yet, to a careful observer, there were many occasions when it was easy to see that he did not appear so entirely at ease without some effort. He was very impatient of interruption; an accidental knock at the door of the theatre, which, by mistake of some stranger, would occasionally happen, would disconcert him considerably; and once, when he saw some pupil joking or inattentive, he stopped, and with a severity of manner I hardly ever saw before or afterward, said, "If the lecture, Sir, is not interesting to you, I shall beg you to walk out."

There were, as we shall hereafter observe, perhaps physical reasons for this irritability. He never hesi-

tated, as we occasionally hear lecturers do, nor ever used any notes. When he came to any part that he perhaps wished to impress, he would pause and think for a second or two, with his class singularly silent. It was a fine moment. We recollect being once at his lecture with the late Professor Macartney, who had been a student of Abernethy's. Macartney said, what can it be that enables him to give so much interest to what we have so often heard before? We believe it to have been nothing but a steady observance of rules, combined with an admirable power *matured by study*.

That which, above every thing, we valued in the whole of Abernethy's lectures, was what can hardly be expressed otherwise than by the term tone. With an absence of all affectation—with the infusion of all sorts of different qualities—with humor, hilarity, lively manner, sometimes rather broad illustrations, at other times calm and philosophical, with all the character of deep thought and acute penetration—indignation at what was wrong or unfeeling, and pathos in relation to irremediable calamity—yet the thing which surpassed all was the feeling he inoculated the pupils with, of a high and conscientious calling. He had a way which excited enthusiasm without the pupil knowing why. We are often told by lecturers of the value of knowledge for various purposes—for increasing the power and wealth of the country—of its use in increasing the comforts and pleasures of society, for amassing fortunes, and for obtaining what the world usually means by the term distinction. But Abernethy created a feeling distinct from and superior to all mere utilitarian purposes. He made one feel the mission of a conscientious surgeon to be a high calling, and spurned in

manner as well as matter the more trite and hackneyed modes of inculcating these things. You had no set essay, no long speeches. The moral was like a golden thread artfully interwoven in a tissue to which it gives a diffusive lustre, which, pervading it every where, is obtrusive nowhere.

For example, the conditions attached to the performance of our lowest duties (operations) were the well-ascertained inefficacy of our best powers directed to judicious treatment; the *crowning* test—the conviction that, placed in the same circumstances, ***we would have the same operation performed on ourselves.*** Much of the suggestive lies on these directions. Our sympathies toward the victims of mistake or ignorance, besides the sufferings endured, were heightened by the patient possessing, or having been bereft of some quality, which called up those feelings which, in some, the case merely might not have awakened.

A father, who, in subservience to the worldly prospects of his son, placed him in a situation, while he forgot his first duty, the health of his offspring, was the "murderer" of his child. Another victim we have seen was "as brave a fellow as ever stepped," &c.

Humanity and science went hand in hand. His method of *discovering* the nature of dislocations and fractures, by attention to the relative position of parts, was admirable, and few of his pupils, who have had much experience, have failed to prove the practical excellence of them. He repudiated nothing more than the too commonly regarded test in fractures of "Grating or Crepitus." Nothing distinguished his examination of a case more than his gentleness, unless it was the clearness with which he delivered his opinions.

To show how important gentleness is: a surgeon had a puzzling case of injury to the elbow. He believed that he knew the nature of the accident, and that he had put the parts right; but still the joint remained in a half-straight position; and the surgeon, who knew his business, became alarmed lest something had escaped him, and that the joint would be stiff. He proposed a consultation. The joint was examined with great gentleness, and after Abernethy's plan. The boy experienced no pain. Every thing appeared in its natural position. The surgeon said, "Now, my boy, bend your arm a little, but no further than just to reach my finger, and not as much as that if it gives you any pain." This the boy did very gently. After waiting a few minutes, the surgeon again told him to bend it a little more, and upon the same conditions; and so on, until in a very short space of time, perhaps eight or ten minutes, the arm had been completely bent. The boy had been alarmed, and the muscles had become so sensitive that they held the parts with the most painful tenacity, but beyond this there was nothing the matter.

We can not help thinking that Abernethy's benevolence had a great influence in directing some of his happiest contributions to practice. We consider that every sufferer with that serious accident, fracture of the neck of the thigh bone, owes a great portion of any recovery he may have to Abernethy. It was he who was the real means of overthrowing a dangerous dogma, that such cases could not unite by bone, and who opposed the practice consequent on it, by which reparation by bone became impossible. There was hardly any subject which he touched which he did not take some view of more or less original, and his reasoning

was always particularly simple and to the point. No man, we believe, ever exceeded him in the skill he possessed in conveying ideas from one mind unto another; but he did a great deal more—he sent those who really studied him away thinking, and led them to work with a kind of pleasure, which was in some sense distinct from any merely practical or professional interest.

He contrived to imbue you with the love of philosophical research in the abstract, with an interest in truth for its own sake; you found yourself remembering the bare facts, not so much from conscious effects of memory as from the interest suggestive of observations with which they were so frequently associated. In going over one of his Lectures alone, they seemed to grow and expand under your own reflections. We know not how to express the effect they produced; they seemed to give new pleasure on repetition, to purify your thoughts scarcely less than they animated your onward studies.

In studying their more suggestive passages, you would now and then feel surprise at the number and variety of important practical relations arising out of a single proposition. We are here merely stating our own early impressions of his power; what we really felt always was, that, great as was the excellence of these Lectures in a scientific or professional sense, there was something more excellent still in the element they contained of intellectual expansion and of moral improvement.

We can not indeed say that they had no faults, but we should be hard driven to point them out; and although we feel how short our attempt to give some idea

of his mode of proceeding must fall of doing him justice, still, if there be any truth at all in our representation, it is quite clear that his negative excellences alone must have employed no ordinary powers. But we must conclude: "Quid multa? istum audiens equidem sic judicare soleo; quidquid aut addideris aut mutaveris aut de traxeris, vitiosius et deterius futurum."

CHAPTER XXIV.

HOR. Is it a custom?
HAMLET. Ay, marry, is't:
But to my mind—though I am native here,
And to the manner born—it is a custom
More honored in the breach than the observance.
HAMLET, Act i., Sc. 4.

IF a moralist were to divide his catalogue of immoralities into such as were of general commission and such as occurred in the conduct of the various trades and professions, we fear the latter division would suggest no very flattering position to humanity. An elevation somewhat above less gifted creatures it might be; but still, we fear, it must be at so low a level as to afford but a humiliating indication of the height from which he had fallen. He would, in too many instances perhaps, find his real claims to his high destiny about equal to the shadowy difference between a creature who fulfills *some* only of his responsibilities, and one who has no responsibilities to fulfill. We should like to hear some grave philosopher discourse on Fashion: it is surely a curious thing, for there is a fashion in every thing. It is very like habit, but it is not

habit either. Habit is a garment, which takes some time to fit easily, and is then not abandoned without difficulty. Fashion is always a good fit *instanter*, but is thrown aside at once without the smallest trouble. The most grotesque or absurd custom which slowly-paced habit bores us with examining, is at once adopted by fashion with a characteristic assentation.

Morals are by no means free from this kind of conventionalism. So much the contrary, that few things evince more strongly the power of fashion. It might be imagined that the multiplication of examples would tend to teach the true nature of the thing exemplified, but it would not seem so with error; *tout au contraire.* Arts or acts which are tabooed as vicious in the singular number, become, in the plasticity of our moral grammars, very tolerable in the plural. Things that the most hardy shrink from perpetrating single handed, become easy "compliance with custom" when "joint-stock" vices; practices which, when partial, men are penetrative enough to discover to be unchristian, or sufficiently sensitive to regard as ungentlemanly, pass muster with marvelous lubricity when they become universal. We can anathematize, with self-complacent indignation, vices in which we have no share, but we become abundantly charitable when we discuss those in which we have a common property; and, finally, moral accounts are settled very much to our own satisfaction, as Butler says, by compounding

> "For sins we are inclined to,
> By damning those we have no mind to."

After all, society keeps a pretty good look-out after faults of general commission. The law is tolerably comprehensive of things which are of general commis-

sion, and mankind sooner or later contrive to catch or successfully oppose the numerous little enormities which slip through the finest of our legal meshes.

"Raro antecedentem scelestum,
Deseruit pede pœna claudo."

From all this, it results that moral obliquities which fall within the observation of society make but an uphill game; that which is felt to be prejudicial to the interests of society is easily determined to be vicious. But here again there is much in fashion; for it has often determined that the immorality of an act is not to be measured by the nature of the act, nor the motive even on which it has been founded, so much as by the more refined test afforded by the position of the *actor;* like a sort of commercial megatherium, one may gorge with rail-way velocity that which a once breathing fond affection and a cold world alike determined to be the life-blood of widows and orphans, and yet have noblemen and others for his associates; he may, perhaps, be a legislator in a great nation, while the poor starveling, who steals for the vulgar purpose of satisfying hunger, may be sent to the treadmill, where he may solve at leisure the problem which "the most enlightened nation on the earth" has thus set him.

Again, vices which have a known influence in disturbing the relations of society are in various ways opposed by the more public influences of religion; so that in the end, although a man may arrive at the conclusion—only by exhausting all other views before he hits on those which lead to it—he finds that honesty is as good a way of getting on as any other; or he may advance perhaps even on this utilitarian creed so

far as to agree with Tillotson, that people take more trouble to get to Hell than would suffice to carry them to Heaven. The immoralities of trades and professions lie in a different position, and involve certain peculiarities which favor their growth and perpetuity.

They are committed in secret; people are proverbially cautious of attacking the weak positions of others, who feel that their own retreats are equally ill defended. This and the established conventionalism of each calling enables an individual to do a good deal off his own bat, without, as one of our bishops happily expressed it, "being caught out." In trade we are sometimes informed that a thing can not be sold cheaper—that the price asked is already less than the cost; and people are appropriately addressed as idiots who every day appear to believe that which common sense shows to be an impossibility.

Your purveyors will sometimes tell you that they are not living by the prices they charge, although you have just ascertained that the same article may be bought at infinitely less cost in the next market. The other day a watch-maker told us that our watch wanted a good deal of looking to, and, among other things, "no doubt cleaning;" but this he discovered, we suppose, by some recondite mesmeric process, in a book which recorded when it had been cleaned last, without looking at the watch at all.

As regards professions, lawyers are said to defend right and wrong with indiscriminate avidity, with the encouraging prospect of obtaining more fruit in maintaining one wrong cause than establishing twenty right.

Then the real nature of these things is, like many

in other sciences, obscured by a somewhat cloudy nomenclature. We hear of "customs of the trade," "secrets of the trade," or profession, applied to things which the moralist only recognizes under very different designations. Sophisms thus secured, and which appear to minister to a man's interests, have their true colors developed with difficulty, to say nothing of its not being easy to discover that which there is no desire to examine.

If any man should be so "peculiar" or "crotchety" as to consider that names are of little import, and that "Vice is vice, for a' that," and venture to anathematize any custom, or even refuse to be an accessory in declining to wink at it, he may encounter charges of violating professional confidence, overlooking a proper *esprit de corps*, and be outvoted, for no better reason than that he can not concur in the dogma that a vicious sophism is more valuable than a simple truth, or agree with the currier "that leather is the best material for fortification;" he may possibly be let off by conceding his connivance, which is little better than declining to be the thief, as too shocking, but having no objection to the more lubricated position of the receiver.

But does any one for one moment believe that all this can be hung on any trade or profession with no effect? or that it will not have a baneful influence on every calling, and that in proportion as its real and proper duties are beneficent and exalted? Now, while we claim for the medical profession a position which, in its single-mindedness and benevolence, yields to no other whatever, we fear it is not wholly free from these technical besettings.

In the medical profession we trust that which we,

for want of a better term, designate as technical immoralities, are exceptional. Exceptional they may be, we sincerely hope, and believe they are; but in a crowded island, exceptions relatively few may be absolutely numerous; and whenever they occur, especially if men hold any position, one case of compromise of duty does more harm than a hundred of the most inflexible adhesions to it can remedy. Suppose a patient apply to a surgeon with a complaint requiring one operation, and his fears incline him to another; he is informed it is improper for his case: that, so far from relieving him, it will indefinitely increase his sufferings. The patient reiterates his wishes, the surgeon declines doing that which he would not have done in his own person. On lamenting what he believes to be the consequences of the patient's determination to a brother surgeon, he is met by, "What a fool you must be, to throw away —— guineas; if you don't do it, somebody else will."

He is quite right in his prediction, and so is the surgeon who refused to operate, and he has lost a large fee; he receives the verification of his prediction subsequently from the patient, who exclaims, "Sir, I never have a moment's ease!" and when, after weeks of suffering, the patient dies, the surgeon consoles himself with the melancholy satisfaction of not having contributed to sufferings which he was called in too late to remedy.

The more plastic practitioner has, it is true, taken fifty or a hundred guineas, it may be, out of the one pocket and put it into his own, but in what way are mankind benefited? or does any one really think that the apparent gainer can ultimately be so? The fault

in this, as in many other cases, is the ignorance of the public. There is nothing in the foregoing sketch that was not as easily intelligible to the commonest understanding as that two and two are equal to four. And is it no evil, that one man should pay so large a sum for so plain a piece of honesty, or that another should be rewarded, as the case may be, for ignorance, or a compromise of his duty?

Let us take another case. A gentleman was called on to give a certificate; he examined the case, and found that the wording of the certificate called on him to certify to that which was diametrically opposite to the fact. He naturally declined, and, as the point was of some importance, went to the parties to explain. He was then informed that two professional men had the previous day given the certificate without hesitation. He is complimented on his conscientiousness, but never employed again by that family; and he has the further satisfaction of hearing that his place is supplied by one of his accommodating brethren! We fear that in such a case there is a balance to be adjusted between the several persons, and an appropriate appellation to be discovered besides. We respectfully leave it to the reader's judgment to adjust the one, and to draw on his aptitude for nomenclature to supply the other.

In another case, a man is called in to a consultation; he disapproves of the treatment, but declares to the friends that every thing has been very properly done. Another is called in, and every thing having been really conducted properly, he commences an *apparently* different treatment, but essentially the same, without giving his confiding brother the benefit which his ac-

quiescence in his views would necessarily imply. In an operation where the course is doubtful and the opinion various, the choice is left to the patient—that is, the decision of how the surgeon is to act is to be determined by him who is confessedly really least capable of judging. Can it be right to perform a *doubtful* operation under such circumstances? Should not the patient reflect that the *temptations* are all on one side? The attempt to dispense with the operation is laborious, time-consuming, anxious, encouraged perhaps only by small, minute accessions of improvement, interspersed with complaints of tedium and delay, while the operation is a work of a few minutes, the remuneration munificent, the *éclat* productive, and the labor nothing. All this and much more the best can not entirely prevent; the real cause is the ignorance of the public, which a very little of the labor they bestow on many far less important subjects would easily and quickly dispel.

If these and multitudes of similar things are evils; if they contribute to debase a profession, and to charge the conscientious with unthankful office and unrequited labor, and to confer fame and profit on a triumphant chicanery; we surely must feel indebted, not only as professional men—not merely as patients, but in a far higher and wider sense—to a man who, availing himself of a commanding position for the highest purposes, has endeavored, by precept and example, to oppose all such proceedings, and to cultivate a high *morale* in the conduct of the profession. Now no one more sedulously aimed at this effect than John Abernethy; and although we shall not, we trust, be accused of underrating the obligations we owe him in a

professional or scientific sense, we think that, great as they are, they are at least equaled by those arising out of that duty-to-your-neighbor spirit which was so universally diffused through every thing he taught, and which, in his intercourse with his pupils, he never on any occasion failed to inculcate. We will endeavor to render what we mean intelligible, and perhaps we can not do this better than by selecting a few illustrations from observation of "Abernethy in Consultation."

CHAPTER XXV.

"Hoc autem de quo nunc agimus id ipsum est quod utile appellatur."

CONSULTATION. We are to have a consultation! What a sound is that! How many a heart has been set thumping by this one word. We doubt whether there be any in the English language that has more frequently disturbed the current it was intended to calm. But consultations must be. Already the carriage of a physician has arrived, a tremendous rap has been given at the door, the interesting visitor is already in the library. Another rap, louder somewhat than the former, announces another physician, or a consulting surgeon. The general practitioner, taking advantage of his intimacy with the family, may have perhaps very sensibly walked in without knocking at all. They are now all assembled in the library, and having remarked on a "Storm Scene" by Gaspar Poussin which hangs over the fire-place, we leave them to the preliminaries of a consultation.

Presently they are introduced to the patient, on whom

the knocking has already produced some effect. A short pause, and they are again assembled in the library. In a few minutes the bell rings, and the father of a fine young woman is summoned to hear their decision. As he proceeds, he stealthily removes a straggling tear that, with all care, would get out of bounds, enters the library, and hears the result of the consultation. Neatly enveloped *honoraria* are presented to the consultants, the bell has rung, Thomas has shown the gentlemen to their respective vehicles, and so ends the consultation.

The father, a widower, returns to the drawing-room, and his second daughter says, "Well, papa, what do the doctors say of Emily?" "Well, my dear, they say that Emily is very ill; that she requires great care; that they can not say positively, but they hope she may ultimately do well. They entirely coincide with our friend Mr. Smith Jones as to the nature of the disease, and think his treatment of the case has been highly judicious. They say there are some points on which the case may turn, but of which they can not speak positively to-day; but they hope to be able to do so when they meet again, which they are to do the day 'after to-morrow.' They all seem to consider the nervous system very much affected. They say we must keep Emily very quiet. She is to have any light diet she desires, and to have some new medicine to-morrow. The cod-liver-oil, they say, has done her all the good now that it is calculated to do, and she is this evening to take a composing draught." The family are silent, and so ends the consultation.

What! and are all consultations like that? No, reader, we hope not. Many a valuable life has, we believe,

been saved or prolonged by consultation, and perhaps many more would be, if people would only think a little more before they act in such important matters.

But how is this to be, when men and women who *do* think will dive into all other branches of knowledge, more or less, and neglect all inquiry into laws, a *general* knowledge of which may easily be acquired, and of which ignorance is so frequently visited by no less punishment than the premature separation of our dearest ties, and the loss or impairment of that which is acknowledged to be the first of temporal blessings. There are many things in consultations which require putting right, which do not depend on any man or on any one class. What are we to say to a man who admits the ability, and approves of the investigative power and practice of another, but who can not call him in because he orders so little medicine? Or of the mode in which the public treat another, who, wishing to practice as a gentleman, and to be paid for his brains rather than his bottles, makes no charge for the latter, and yet who informed us that, having tried this for three years, he lost so many families by it, that, if he had not relinquished the plan, he should have wanted bread for his own? Or whom shall we blame when one man, calling in another to a patient, finds that this latter feels no scruple in repaying the *prestige* which he thus owes to his confiding brother by taking the patient from him the first opportunity, albeit that he occupies what should be, and, we trust, as the rule is, a higher walk in the profession?

We have seen so much feeling arising from this practice, and we hold it as so serious an error, that we regard it as tending more than any one thing whatever

to injure the position and character of the consulting branches of the profession.

Again, how inconsiderate must be the adoption of that custom which first of all institutes an inquiry to ascertain whether there is any difference of opinion, and yet accompanies it with trammels, the tendency of which is to oblige men to appear to agree. When coincidence of opinion is alone safe, who can be expected to differ? The public have allowed the lawyers to differ without that difference involving any reproach. They have also proverbially determined that "doctors do." Yet that which they regard as an almost necessary rule in the one case, they are very prone to visit in regard to some one of the dissentients as a proof of professional inferiority in the other. A great deal of mischief results from this state of things; it indefinitely increases the difficulty of obtaining a really honest and unreserved opinion, and leads to other consequences which tend to impair that mutual confidence between man and man which should be the very life-blood of a fine profession.

We recollect a case, on the nature of which two surgeons were consulted; and when the patient—a young lady—had been withdrawn, the father requested to know if there were any objection to his being present at the conference. The surgeon to whom he seemed to address himself said, "None on my part," to which the other *seemed* to give consent. When the consultation was over, the surgeon who had thus *seemed* to consent addressed the other, saying, "If ever we meet again, Sir, our consultation must not be in the presence of the friends of the patient." This was said in a tone to which the other had not been accustomed; but, as

a lady had just then entered the room, no reply was made. The next morning, however, the gentleman was called on to reconsider the tone in which he had thus addressed his brother consultant, when a satisfactory explanation settled the matter.

Such things, however, are extremely disagreeable, and illustrate how much more easy it is to go straightforward than by any zigzag route. What! could not a father hear the honest opinion of two men concerning his child until the consultation had been shorn down and dovetailed together so as to be made a symmetrical nondescript adapted to the requisitions of a vulgar conventionalism?

In another case, in a consultation on a disease as plainly scrofulous as it was possible to be, the family attendant had pronounced that it was *constitutional*, but *not* scrofula. This was, it appeared, a miserable assentation to the prejudices of the family, for the result proved that he knew better. Nevertheless, a consultation had taken place already with a very eminent surgeon, without the family being any the wiser in regard to the nature of the disease. The case not progressing, another surgeon was consulted, who, being asked what he considered the disease to be, replied that it was scrofula. Upon this, considerable surprise and uneasiness was manifested on the part of the family; and the surgeon, wondering what, in so plain a case, could be the doubt, took occasion to see the former medical attendant, and to ask him what he thought of the case, when he said that it was clearly scrofula, and that he had *never known the children* of certain temperaments, to which he considered the parents to belong, wholly without a tendency to that disease; so

that he had all along been blinding the parents, so far as his opinion and that of another eminent man went, to the real nature of the malady.

A singular occurrence, as we hope, took place one day in consultation, showing how comfortably the most questionable thing may appear to sit on a man's conscience if only supported by some *supposed* sanction from custom. Two surgeons met to consider a case. They differed as to its nature and treatment, as thus: the one thought a certain remedy necessary, and that any prospective consequences on its employment merged into the necessity of the moment; the other thought that remedy wholly unnecessary, and therefore held even the *possibility* of any prospective mischief an insuperable objection to its use; conceding, however, that it *might* possibly, if the treatment were conducted cautiously, be nevertheless so managed as to secure the patient from the consequences in question, and that, if the patient preferred that course after the matter had been fairly stated to him, he would superintend the plan.

Having retired into another room to consult, they were now again introduced to the patient, when the junior was somewhat startled to hear his senior begin thus: "Well, Sir, we have considered your case, and we perfectly agree as to the nature of it." Thinking that this unexpected exordium might possibly be preliminary to some explanation of the points on which they differed, the surgeon waited a minute to hear what followed; but, finding that his brother was irremediably misrepresenting the matter, he said, "Stop! let us understand each other!" and then stated what had really happened, and the exact nature of their re-

spective opinions; on which the other, in the coolest manner possible, said, "Yes—exactly; you are quite right!" and so ended the "consultation."

There is, no doubt, some fault on all sides. The public are too uninformed on these important subjects, and therefore do much that is equally against their own interests, and the preservation of that dignity and respect which should ever attach to a high-missioned profession; but is the profession itself free from blame? Do they never themselves minister to this wretched system of double dealing? We fear there is but one answer to this question. We are not careful, for obvious reasons, to multiply examples of such things, but we are convinced that there must be a change; and since the profession can not, as too many of the public may, plead ignorance, for this and a thousand other reasons they should lead the way. We only claim for ourselves what we readily concede to others, the expression of our opinion, when we say that consultations should be *bonâ fide* examinations of the case, and should be followed by *bonâ fide intelligible* explanations of it to the *patient* or his *friends*, according to the suggestions of ordinary prudence or humanity in the individual case. When the treatment is correct, the most honest proof should be afforded of it, namely, the continuance of the plan of the attendant in ordinary, unobscured by the farce or form of writing a prescription; or, if *additional* appliance only is adopted, in such a case its subordinate character should be honestly explained.

Where there is difference of view, if it be material, that also should be candidly stated; and if this be done with *real fairness*, our experience has convinced

us that it may be effected without damage to either party. In other differences of opinion the public never think it necessary to impute ignorance or incapacity; let them, for their own sakes, repudiate this construction in regard to the medical profession. Lastly, let them forever abandon the practice of paying any man for his bottles, the number of which will often be in an inverse ratio with his skill and judgment. But where is Abernethy?

No doubt Abernethy's manner varied in consultation, but of this we shall speak in a separate chapter. We will here record our impressions as to "Abernethy in consultation;" the conditions which seemed to secure a considerate opinion from him; the good sense and reasonableness of those conditions; the practical result of the observance of them, and the effect they were calculated to produce on the public, in giving to consultations that efficiency by which they should be characterized; an efficiency which *every one* begins to perceive necessary, and which must equally be to the advantage of the public and the elevation of the profession.

CHAPTER XXVI.

"Quidquid enim justum sit id etiam utile esse censent; itemque quod honestum idem justum ex quo efficitur ut quidquid honestum sit idem sit utile."—CICERO.

THE first thing in consulting Abernethy, if you were a medical man, was to be clear, and "well up" in the nature of the case, and the next thing, not to state any opinion unless you were prepared to give a good reason

for it. These conditions premised, we never saw any one more unaffectedly deferential to the opinion of another.

A surgeon took a serious case to him, in which the question was as to the removal of a very large tumor in the neck, which seemed to be acquiring connections of such depth and importance, and which threatened, should that step be desirable, to render the removal of it impossible. The patient was advised to allow his surgeon in ordinary to state his case, and to interrupt him only if he omitted any thing in regard to it within the patient's knowledge. This was done; the general habits of the patient described, with the difference which had existed antecedent to the age of thirty, and subsequent thereto. Mr. Abernethy examined the tumor.

To THE SURGEON. It is parotid, is it not?

SURGEON. I think not, Sir.

ABERNETHY (*hastily*). Why not?

SURGEON. Because, Sir, reflecting on the depth and situation of the parotid gland, I hardly expect the tumor to be so movable.

ABERNETHY. Ah, I see! Very well. (Then to the patient.) Well, Sir, I should advise you to attend to your general health, and continue to follow Mr. ——'s advice on that subject. "What I say is—" then followed a short lecture on the digestive organs.

PATIENT. Do you think, Sir, I shall get rid of it?

ABERNETHY. Nay, I can not tell that; but now suppose you pursue a plan steadily, say for a month, and the tumor does not increase, will it not be encouraging to you?

PATIENT. Certainly, Sir.

ABERNETHY. Well, then, try it; for if its removal should become necessary, you will at least be in better condition for the operation. If it does not get larger, or otherwise inconvenience you, let it alone.

The patient had heard so much of Abernethy's roughness, that he came away equally pleased and astonished.

A surgeon took a Colonel in the army to him with a case which was progressing fairly, but, as he conceived, in consequence of the patient not paying so much attention to his health as he was recommended to do, not so satisfactorily as he desired. The Colonel briefly stated his case.

ABERNETHY. Show me your tongue. Ah! that is bad enough.

COLONEL. You are quite right there.

ABERNETHY. Well, man, I don't require to be told that.

Here the surgeon stated the treatment, which had, in addition to attention to the general health, involved some local administrations, of which, in general, Abernethy approved, but, as it would seem, not in this case. His difference of opinion he thus stated in the presence of the patient.

"Well, I say that there is a sufficient disorder of your digestive organs to maintain the annoyances of which you complain; and I should confine my attention to endeavor to put that disorder right. Mr. —— seems to think that, in adding to this treatment the plan he proposes, he will shorten the case. Well, that may be so; he has paid, I know, a good deal of attention to this subject, and if I had one of my own family ill with this complaint, I should feel perfectly satis-

fied if they were under his care. At the same time, I say what I think; and if you do not find the general plan successful, then the means he proposes might with propriety be added."

No harm resulted from this difference of opinion, but much benefit. The patient was not pleased with Abernethy, but he thought him very skillful and very honest.

One day a surgeon went to him under the following circumstances. A patient who had recently recovered from a lameness, which, as alleged, had its cause in the foot, on a relapse had gone to another surgeon. This gentleman had, as it ultimately appeared, hastily decided that the lady had a complaint in the hip; she was therefore consigned to bed, and then treated for disease of that part. After about three months, feeling no better, she desired to see the surgeon under whose care she had formerly been.

The surgeon was now very much annoyed, for he found that he had been by many persons charged with having mistaken the case, which he had never even seen on the second attack, and which now presented a phase in which disease of the hip, to a hasty examiner, might easily be suggested. He was not much better satisfied when, after a careful examination of the case, he felt convinced that there was no disease in the hip, although the symptoms were more severe than ever. He declined undertaking the case without a previous consultation with the surgeon who had decided it to be a disease of the hip; but the patient being immovable in her opposition to the request, and offering any other surgeon, or more if required, her wishes were acceded to, and Mr. Abernethy requested

to visit the case. On going to the patient, the surgeon explained to Mr. Abernethy the points at issue, but without telling him to which view his own opinion inclined, or the positive *dictum* of his senior brother, a very eminent surgeon. "I shall therefore," said he to Abernethy, "feel particularly obliged to you, Sir, if you will examine the case for yourself."

When they were introduced to the lady, Abernethy said, "Well, now, I should be very well satisfied with Mr. ——'s report of your case, but he says I must examine the limb for myself; so 'here goes;'" a somewhat repulsive beginning to a delicate lady, perhaps; but nothing could be more cautiously gentle than his examination. In conducting it, he had avoided one test which usually *does* give a little pain. The other surgeon, deeming the decision to be very important, reminded him of this test (raising the limb and striking the heel gently), which he then proceeded to do with equal gentleness. "That will do," said he; "now, Sir, shall we go into another room?" "No, Sir," replied the surgeon; "if you please, Mr. Abernethy, I should prefer your at once telling the patient what is your opinion on the case."

He then declared his opinion; but, fearing he might injure one or other party, with the following exordium: "Now, Madam, we are all liable to mistakes: there is no man living who does not make more or less, and I am sure I make mistakes, therefore I may do so in my opinion of your case; but, for the life of me, I can not observe that you have any disease in your hip." He then gave a short but most lucid view of what he conceived to be the cause of her pain, and illustrated it by referring to something which happened to him-

self in one of his own severe rheumatic attacks. The result proved that he was quite right as to his view of the case; the lady, by exercise and other means, which, had the hip been diseased, would have only exasperated her complaint, had a good recovery.

One very great charm in Abernethy in consultation was that there was no difficulty in getting him to speak out. Some men are so afraid of being wrong, that they never give you the whole of their opinion in a case involving any difficulty. It is an obscure and a guarded prognosis, which sometimes amounts to no opinion at all.

Even with surgeons who were very unobjectionable, Abernethy in his best manner contrasted very favorably. We recollect being very much struck with this when very young. We had to meet Mr. Cline and Mr. Abernethy within a few days of each other in the same case. Mr. Cline was very kind to the patient, elaborately civil; nor was there any thing which could be fairly regarded as objectionable; but his manner was too artificial; the contrast in Abernethy was very agreeable. The case was serious, and, as we thought, hopeless. Abernethy, the moment he saw it, had his sympathies painfully awakened. Having asked a few questions, he, in the very kindest manner, said, "Well, I will tell you what I would do, were I in your situation." He then proceeded to direct how she should regulate her living, how avoid mischievous experiments, and went into a rather lengthy series of directions, in the most unaffected manner, without leaving the room or having any private consultation whatever. The lady, who was a distinguished person and a very accomplished woman, was exceedingly pleased with him.

His manner, as we shall by-and-by admit, was occasionally rough, and sometimes rather prematurely truthful. One day he was called in consultation by a physycian to give an opinion on a case of a pulsating tumor, which was pretty clearly an aneurism. On proceeding to examine the tumor, he found a plaster on it. "What is this?" said Abernethy. "Oh! that is a plaster." "Pooh!" said Abernethy, taking it off and throwing it aside. "That was all very well," said the physician, "but that 'pooh' took several guineas out of my pocket."

On the other hand, he never failed to give the warmest and most efficient sanction he could to what he conceived to be judicious treatment on the part of the practitioner with whom he was in consultation. Mr. Stowe has kindly sent me a very good example of this, and it illustrates also another very valuable feature in a consultant—the forbearance from *doing any thing* where nothing is necessary. A gentleman had met with a severe accident, a compound dislocation of the ankle, an accident that Abernethy was the chief means of redeeming from habitual amputation. The accident happened near Winterslow Hut, on the road between Andover and Salisbury, and Mr. Davis, of Andover, was called in. Mr. Davis placed the parts right, and then said to the patient, "Now, when you get well, and have, as you most likely will, a stiff joint, your friends will tell you, 'Ah! you had a country doctor;' so, Sir, I would advise you to send for a London surgeon to confirm or correct what I have done." The patient consented, and sent to London for Abernethy, who reached the spot by the mail about two in the morning. He looked carefully at the limb, and saw that it was in a

good position, and was told what had been done. He then said, "I am come a long way, Sir, to do nothing. I might, indeed, pretend to do something; but, as any avoidable motion of the limb must necessarily be mischievous, I should only do harm. You are in very good hands, and I dare say will do very well. You may indeed come home with a stiff joint, but that is better than a wooden leg." He took a check for his fee, sixty guineas, and made his way back to London.

Soon after this, an old clergyman in the same neighborhood had a violent attack of erysipelas in the head and arm. His family, becoming alarmed, wrote up to his brother, who resided near Bedford Row, to request Mr. Abernethy to go down and visit the patient. Abernethy said, "Who attends your brother?" "Mr. Davis, of Andover." "Well, I told him all I knew about surgery, and I *know* that he has not forgotten it. You may be perfectly satisfied. I shall not go." Here, as Mr. Stowe observes, he might have had another sixty guineas.

He always felt a great deal of interest about compound dislocations of the ankle-joint, because of his conviction that amputation, then so commonly resorted to, was unnecessary. He used to tell several cases in his lectures: one of them we will briefly relate here. It was that of a laboring man, who fell off a scaffold in his own neighborhood, and, among other surgeons, they had sent for Abernethy. When he got to the house, he found, he says, "a poor wee man lying on his mattress, with a very complete compound dislocation of the ankle-joint. The joint was completely exposed, and the torn skin was overlapping the edge of the bone." He placed the parts in their natural position, and drew

the skin out of the rent; and when he had thus adjusted it, as he says, a horrible accident looked as if there had been very little the matter. "Do you think, Sir," said the poor little man, "that this can ever get well?" "Yes, verily," said Abernethy. "Do not be out of heart about it; I have known many such cases do well." "Why, Sir," said the man, "they have gone for the instruments." "I now found," said Abernethy, "that two other surgeons had seen him, and had determined that it was necessary to amputate. I felt that I had got into an embarrassing predicament, and was obliged to wait until these heroes returned. When they arrived, and saw the man lying so comfortably, they seemed a little staggered; but one of them said, 'Mr. Abernethy, you know the serious nature of these accidents, and can you give us an assurance that this will do well?' I said, 'No, certainly not; but if it does not do well, you can have recourse to amputation afterward, and my surgical character is pledged no further than this. I give you the assurance that no immediate mischief will come on to endanger the man's life. You may wait and see whether his constitution will allow him to do well.' I added, 'I feel that I am got rather into a scrape, so you must allow me to manage it in my own way.' So I got splints, put up the limb, varnished the plaster, and then told them about sponging it continually, so as never to allow any increase of temperature. Now there are two holds you have on a patient's mind—hope and fear—and I make use of both; so I said, 'If you lie perfectly still, you will do well, and if you move one jot, you will do ill—that's all.'" The remainder of the case need not be given. The man recovered, and saved his limb.

We have referred to that case because, though relating to a professional matter, there is a moral in it. He might easily have saved himself all the trouble he took, and on the plea of etiquette; but the poverty of the man pleaded for his limb, and the impossibility, in such a case, of the imputation of any wrong motive, left free exercise for the prevailing feature of Abernethy's character—benevolence. The mention of the instruments secured to the poor man that *personal* attention to details by Abernethy himself which a more wealthy patient might not have so certainly obtained.

We have remarked before on his kindness to hospital patients, and sometimes the expression of their gratitude would be very touching. It is difficult or impossible to carry out Mr. Abernethy's principles of practice with *perfect* efficiency in the atmosphere of a large hospital in a crowded city, yet the truth of his views would sometimes be impressed by very extraordinary and unexpected results. We select the following as an example, for reasons which will be suggested by the narrative. We are indebted to Mr. Stowe for the illustration, and as we should only mar the scene by any abbreviation, we must allow him to tell it in his own manner:

"It was on his first going through the wards after a visit to Bath that, passing up between the rows of beds, with an immense crowd of pupils after him—myself among the rest—the apparition of a poor Irishman, with the scantiest shirt I ever saw, jumping out of bed, and literally throwing himself on his knees at Abernethy's feet, presented itself. For some moments every body was bewildered; but the poor fellow, with all his country's eloquence, poured out such a torrent of

thanks, prayers, and blessings, and made such pantomimic displays of his leg, that we were not long left in doubt. 'That's the leg, yer honnor! Glory be to God! Yer honnor's the boy to do it! May the heavens be your bed! Long life to your honnor! To the divole with the spalpeens that said your honnor would cut it off!' &c. The man had come into the hospital about three months before with diseased ankle, and it had been at once condemned to amputation. Something, however, induced Abernethy to try what *rest* and constitutional treatment would do for it, and with the happiest result.

"With some difficulty the patient was got into bed, and Abernethy took the opportunity of giving us a clinical lecture about diseases and their constitutional treatment. And now commenced the fun. Every sentence Abernethy uttered, Pat confirmed. 'Thrue, yer honnor, divole a lie in it. His honnor's the grate dochtor entirely!' While at the slightest allusion to his case, off went the bed-clothes, and up went the leg, as if he were taking aim at the ceiling with it. 'That's it, by gorra! and a bitther leg than the villin's that wanted to cut it off.' This was soon after I went to London, and I was much struck with Abernethy's manner; in the midst of the laughter, stooping down to the patient, he said, with much earnestness, 'I am glad your leg is doing well; but never kneel, except to your Maker.'"

The following letter, though containing nothing extraordinary, still shows his usual manner of addressing a patient by letter:

"Sir,—In reply to your letter, I can only say what I must have said to you in part when you did me the honor of consulting me.

"Firstly. That the restoration of the digestive organs to a tranquil and healthy state greatly depends on a strict observance of rational rules of diet. My opinions on this subject, which are too long to be transcribed, are to be met with at page 72 of the first part of 'Abernethy's Surgical Observations,' published by Longman and Co., of Paternoster Row.

"Secondly. Upon keeping the bowels clear, yet without irritating them by over-doses of aperient medicine.

"Thirdly. I consider the blue pill as a pro-bilious medicine, and only urge that the dose be such as to do no harm if it fail to do good, and then to be taken perseveringly for some time, in order to determine whether it will not slowly effect the object for which it was given. In gouty habits, carbonate of soda, &c., may be given, to neutralize acidity in the stomach, with light bitters; but the *prescription of medicines of this kind*, as also any advice relative to the cold bath, must rest with your medical attendant."

Dated the 17th of September; as usual, with him, without the year, which was about 1824.

It is obvious that very few professional letters are adapted for introduction. This was one kindly sent us by Mr. Preston, of Norwich, and was written to a gentleman in Yorkshire.

Few things were more pleasing or valuable in Abernethy than his modesty and his sense of justice. He knew his superiority well enough, but he measured it with reference to what was still beyond him, and not by the standard afforded by the knowledge of others. His sense of justice was, we think, never appealed to in vain. The following letter has appeared to us sig-

nificant in relation to these points. Amid the peaceful glories of a useful profession, there is nothing that sinks deeper or interests our regard more than a man, in the hour of success, remembering what is due to others. We think this remark particularly applicable to the late Mr. Tait, in the following case. The letter from Abernethy was obligingly sent us by Mr. Tait's son and successor. The remarks with which Mr. Tait concludes his case are as creditable to the writer as to him whom they were intended to honor.

We have stated that Mr. Abernethy had been the first to extend the application of John Hunter's celebrated operation for the cure of aneurism to a vessel nearer the heart (the external iliac artery), on which Mr. Abernethy placed a ligature in 1797. Mr. Tait, of Glasgow, had an extraordinary case of aneurism in both lower extremities, so high up as to oblige him to place a ligature on the external iliac artery on both sides of the body. The case occurred in an old dragoon, and the two operations were performed at separate times, with great judgment and with complete success. The case, of course, made some noise, and was highly creditable.* In closing his account of the patient, Mr. Tait observes: "The complete success which has attended these operations, while certainly it affords me one of the highest gratifications the practice of my profession can procure me, chiefly affects Mr. Abernethy.

"Accident has placed under my care a case which, so far as I know, is unparalleled in the history of surgery, and it has been cured; but I have only put in practice what every surgeon of the day ought to have

* Edinburgh Medical and Surgical Journal, vol. xxvi.

done. When, thirty years ago, Mr. Abernethy formed the firm resolve of cutting open the walls of the abdomen and seizing the external iliac artery, he made a mighty step in advance—he formed an epoch in the history of his profession. John Hunter, upon reflecting on the hemorrhage proceeding from the vessel below the sac, after an operation in 1779, when Mr. Broomfied, 'for security,' had tied the artery three or four inches above the aneurism, had probably the first glimpse at his great improvement of tying the artery in cases of aneurism nearer the heart. His eminent successor has extended the principles of the illustrious Hunter.

"So firmly impressed was Mr. Abernethy with the certainty of ultimate success, that, nothing daunted by the unfortunate issue of his two first cases, he persevered, and at length successfully secured the external iliac artery. His steps have been followed by a host, till at length it needed but such a case as mine to add the finishing touch to his well-earned fame. In doing justice to the merits of such men, we act but the part of prudence, since, if we do not, indignant posterity will.

"Paisley, January, 1826."

The following is Abernethy's reply to a communication from Mr. Tait on the subject, and couched in a tone just in relation to Mr. Hunter, modest and characteristic as regards himself.

TO DAVID TAIT, ESQ., SURGEON, PAISLEY.

"Dear Sir,—I have read your interesting case in the 'Edinburgh Journal,' but have no comments to offer. I have therefore only to thank you for the hon-

orable mention you have made of me. The progress of science had given us reason to confide in the anastomosing* channels for carrying on the circulation. The only question necessary to be decided was, Would *large* arteries heal when tied? Every case confirmed that point, and therefore there was little merit in perseverance. Nevertheless, I feel grateful for your good opinion, and with congratulation and best wishes, I am, dear Sir, yours very sincerely, JOHN ABERNETHY.

"Bedford Row, July 14."
Post-mark 1826.

The following portion of a note, necessarily mutilated from the suppression of professional matter, we copy as a written evidence of his not *in any way* appearing to alter or add to a treatment which he approved. It is written to a highly esteemed member of our profession, Mr. Beaman, of King Street, Covent Garden. Mr. Beaman had sent a patient alone to Mr. Abernethy, who, having seen him, gave him the following note:

"MY DEAR SIR,—The patient says (here the symptoms referring to the point to be investigated are stated), and if this be true, I have no wish * * * * nor can I suggest better treatment than that which you have adopted.

"Yours very sincerely, JOHN ABERNETHY."

No date; post-mark 1825.

The following letter to Mr. Wood, of Rochdale, reiterates his opinion on a very important disease, contraction of the gullet, or œsophagus, and conveys a practi-

* The name applied to the collateral branches which carry on the circulation when the main artery of the limb is tied or obstructed.

cal truth, which, if we may judge from the cases published in the periodicals, is just as necessary as ever. We allude to the too officious use of instruments in this affection, a lesson of Abernethy's, of the practical excellence of which Mr. Wood had convinced himself by his own experience, as we ourselves have on many occasions.

"My dear Sir,—I think as you do with regard to the difficulty of swallowing. It seems likely to be the effect of irritability of the stomach, and if so, the passing of instruments, however soft and well-directed they may be, is not likely to be beneficial.

"Indeed, I have seen so little good from such measures, that I should feel reluctance to employing them until impelled by stronger necessity than exists in the present case. Spasmodic affection in the part is, as you know, exceedingly common, and continues for a great many years without producing permanent contraction. With respect to the main object of the treatment of this case, I can not say more than you are already acquainted with, and which is suggested at page 72.

"I have of late been personally convinced of the benefit of the strictest attention to diet. Last summer my stomach was so disordered that it would not digest any thing, and I was constantly tormented by the chemical changes which the food underwent in that organ. I had scarcely any flesh on my bones, and sometimes every ten minutes was seized with rheumatic spasms, which were as general and severe as those of tetanus.* I went into the country, where I could get good milk

* Locked-jaw.

and eggs, and lived upon three ounces of baked custard taken three times a day, drinking four hours after each meal some boiled water that had been poured upon a small quantity of ginger. Upon this quantity of food I regained my flesh, and uniformly got better as long as I continued this plan of diet, which was but for one month, for then I returned to town. From the very first day I had no more of these spasms. As for medical treatment, I repeat that I can not say more than you already know. It gives me pleasure to find that you are settled to your satisfaction.

"I remain, my dear Sir, very sincerely yours,

"JOHN ABERNETHY.

"Bedford Row, January 9."

CHAPTER XXVII.

OF MANNER.

"Non ego paucis,
Offendar maculis, quas aut incuria fudit,
Aut humana parum cavit natura."—HORACE.

"I will not be offended by a few blemishes, the result of inattention, or against which human frailty has not sufficiently guarded."

MANKIND have long established, by universal consent, the great importance of manner. It has been so ably and so variously described by different writers, that it is next to impossible to say any thing new on the subject, or what has not been even better said already. Still it is equally true that it is a subject very much less cultivated than its influence demands, so that really easy, good manners continue to be a very rare and enviable possession. But if manners be thus influen-

tial in the ordinary intercourse of life, they are still more important in ministering to disease. People, when they are ill, have, for the wisest purposes, their susceptibilities more vivid, and it is happy for them when those in health have their sympathies, as is natural, we think, that they should be wakened up in proportion. No doubt it is a great subtraction from whatever benefit the most skillful can confer, if it be administered in a dry, cold, unfeeling, or otherwise repulsive manner. There is, too, a very sound physiological as well as moral reason for kindness. It is difficult to overrate the value of that calm which is sometimes diffused over the whole system by the impression that there is an unaffected sympathy in our sufferings. We must, of course, in our time have observed abundant varieties of manner in our professional brethren, and we have often listened with interest to conversations in society in which the manners of various medical men have been the subject of discussion, from which good listeners might, we think, have often taken valuable lessons.

We are convinced that the disguise worn by some, of an artificial manner, leaves on many occasions no one more deceived than the wearer. Many patients have their perceptions remarkably quickened by indisposition, and will penetrate the thin vail of any form of affectation much more readily than people imagine. In common language, good feeling and kind manner are said to spring from the heart. If a man feels kindly, he will rarely express himself otherwise, except under some momentary impulse of impatience or indisposition.

There is no doubt that the secret of a kind and con-

ciliatory manner consists in the regulation of the feelings, and in carrying into the more trivial affairs of life that principle which we acknowledge as indispensable in serious matters—of doing to others as we would they should do to us.

We are not speaking of *a polished* manner; that is another affair. A man's manner to a patient may be unpolished, or as homely as you please; but if he really feels a sympathy for his patient, it will, with the exception to be stated, never be coarse or unkind.

Some men are absurdly pompous, others hard and cold; some put on a drawling, maudlin tone, which the most superficial observer detects as being affected. An honest sympathy is more acceptable than even a polished manner, though doubtless that is a very desirable grace to a learned profession.

In general, our own experience—and we know something of indisposition in our own person—has induced us to judge favorably of the manners of medical men.

There are, no doubt, exceptions, and sometimes in men in whom you would least expect it. We have known men "eye" a patient as if looking at some minute object—some jocosely familiar. One man has an absurd gravity, another thinks he must be all smiles. We have known, too, the adoption of a tone interspersed with a religious solemnity. These, when put on, are generally detected, and of course always vulgar. Some even say really rude and unfeeling things before any thing has happened to provoke them. We attended a gentleman who had a great deal of dry humor, and who was very amusing on such matters. One morning he said, "I saw Dr. —— on one occasion, and the first thing he said to me I thought he

might as well have omitted. 'I see, Sir,' said he, 'that you have taken the shine out of your constitution.'"

Abernethy's manner was at times, and in all serious cases, and so far as we ever observed, to hospital patients as unaffectedly kind as could be desired. It is too true that on many occasions of minor import, that impulsiveness of character which we have seen in the boy was still uncontrolled in the man, and led him to say things which, however we may palliate, we shall not attempt to excuse.

It is true his roughness was very superficial; it was the easiest thing in the world to develop the real kindness of heart which lay undoubtedly beneath it, and it is very instructive to observe how a very little yielding to an absurdity may occasionally obscure one of the most benevolent hearts that ever beat in a human breast with the repulsive exterior of ungentle manners. Still, patients could not be expected to know this, and therefore too many went away actually dissatisfied, if not disgusted.

The slightest reaction was in general sufficient to bring him to his self-possession. A lady whom he had seen on former occasions was one day exceedingly hurt by his manner, and burst into tears. He immediately became as kind and patient as possible, and the lady came away just as pleased as she had been at first offended.

Reaction of a different kind would answer equally well. One day a gentleman consulted him on a painful affection of his shoulder, which had been of a very excruciating character. Before he had time to enter on his case, Abernethy said, "Well, I know nothing

about it!" The gentleman sharply retorted, "I do not know how you should; but if you will have patience till I tell you, perhaps you then may." Abernethy at once said, "Sit down," and heard him out with the greatest kindness and patience.

I am indebted to Thomas Chevasse, Esq., of Sutton Cold Field, Warwick, for the following letter to a patient in Surrey, who had complained that he did not receive any sympathy from him.

"DEAR SIR,—I am sorry to have said any thing that has offended you. I may have felt annoyed that I could not suggest any plan of treatment more directly curative of your malady, and expressed myself pettishly when you did not seem to understand my meaning, for I am a fellow-sufferer, and had tried what are considered to be appropriate remedies unavailingly. I assure you that I did not mean to hurt your feelings, and that I earnestly hope the state of your health will gradually improve, and that your local maladies will decline in proportion.

"I am, dear Sir, your obedient servant,

"JOHN ABERNETHY.

"Bedford Row, October 25."

A surgeon was requested to visit a patient in one of the suburbs of the metropolis. When he arrived there, he had to mount two or three dilapidated steps, and to read a number which had been so nearly worn away, that he was enabled to determine if it was the number he sought only by the more legible condition of its two neighbors. Having applied a very loose, dilapidated knocker, an old woman came to the door.

"Does Captain —— live here?"

"Yes, Sir."

"Is he at home?"

"Yes, Sir. Please, Sir—may I be so bold—are you the doctor, Sir?"

"Yes."

"Oh! then, Sir, please to walk up."

The surgeon went up a small, narrow stair-case into a moderate-sized, dirty, ill-furnished room, the walls of which were colored something between yellow and red, with a black border. An old man, in a very shabby and variegated *déshabillé*, rose from his chair, and with a grace worthy of a court, welcomed the stranger. His manner was extremely gentlemanly, his language remarkably well chosen, and the statement of his complaint particularly simple and clear. The surgeon, who, like most of us, see strange things, was puzzled to make out his new patient, but concluded he was one of the many who, having been born to better things, had been reduced, by some misfortune, to narrow circumstances. Every thing seemed to suggest that construction, and to warrant no other. Accordingly, having prescribed, the surgeon was about to take his leave, when the old gentleman said,

"Sir, I thank you very much for your attention!" at the same time offering his hand, with a fee.

This the surgeon declined, simply saying,

"No, I thank you, Sir. I hope you will soon be better. Good-morning."

"Stay, Sir!" said the old gentleman. "I shall insist on this, if you please," in a tone which at once made the surgeon feel that it would be painful and improper to refuse. He accordingly took it. The old gentlemen then said, "I am very much obliged to you,

Sir; for, had you not taken your fee, I could not have again had the advantage of your advice. I sent for you because I had understood that you were a pupil of Mr. Abernethy's, for whom I could not send again, because he would not take his fee; and I was so hurt, that I am afraid I was almost rude to him. I suppose, judging from the appearance of things here that I could not afford it, he refused his fee, on which I begged him not to be deceived by appearances, but to take it. However, he kept retreating and declining it, until, forgetting myself a little, and feeling somewhat vexed, I said, 'By G—, Sir, I insist on your taking it!' when he replied, 'By G—, Sir, I will not!' and, hastily leaving the room, closed the door after him."

This gentleman has been dead some years. He lived to a very advanced age—nearly, if not quite ninety—and had many instructive points of character. He was really in very good circumstances, but he lived in a very humble manner, to enable him to assist very efficiently some poor relations. To do this, he saved all that he could; and although he insisted on the surgeon taking a fee when he visited him, said that he should not hesitate to accept his kindness when he called on the surgeon. The intercourse continued many years, but with rather a curious result.

After a time, growing infirmities converted what had been a visit—perhaps once or twice a year—into occasional attendances, when the rule he had prescribed to himself of paying visits at home became characterized by very numerous exceptions; and at last by so many, that the rule and the exception changed places. The surgeon, however, went on, thinking that the patient could not do other without

disturbing existing arrangements. When, however, the old gentleman died, about four hundred guineas were found in his boxes, wrapped up, and in various sums, strongly suggestive of their having been (under the influence of a propensity too common in advancing life) savings from the somewhat unnecessary forbearance of his medical attendant. We know one other very similar occurrence.

Sometimes Mr. Abernethy would meet with a patient who would afford a useful lesson. A lady, the wife of a very distinguished musician, consulted him, and finding him uncourteous, said, "I had heard of your rudeness before I came, Sir, but I did not expect this." When Abernethy gave her the prescription, she said, "What am I to do with this?"

"Any thing you like. Put it in the fire, if you please."

The lady took him at his word—laid his fee on the table, and threw the prescription into the fire, and hastily left the room. Abernethy followed her into the hall, pressing her to take back her fee or to let him give her another prescription; but the lady was inexorable, and left the house.

The foregoing is well authenticated; Mr. Stowe knows the lady well, who is still living; but many of these stories, to our own knowledge, were greatly exaggerated. Abernethy would sometimes offend, not so much by the manner as by the matter—by saying what were very salutary but very unpleasant truths, and of which the patient, perhaps, only felt the sting. We know a gentleman, an old fox-hunter, who abused Abernethy roundly; but all that he could say against him was, "Why, Sir, almost the moment I entered

the room, he said, 'I perceive you drink a good deal' (which was very true). Now," added the patient, very *naïvely*, "suppose I did, what the devil was that to him?"

Another gentleman of considerable literary reputation, but who, as regarded drinking, was not intemperate, had a most unfortunate appearance on his nose, exactly like that which accompanies dram-drinking. This gentleman used to be exceedingly irate against Abernethy, although all I could gather from him amounted to nothing more than this, that when he said his stomach was out of order, Abernethy said, "Ay, I see that by your nose," or some equivalent expression.

However rough Abernethy could occasionally be, there was, on grave occasions, no feature of his character more striking than his humanity. Dr. Barnet had a case where Abernethy was about to perform a severe operation. Dr. B., at that time a young man, was very anxious to have every thing duly prepared, and had been very careful. When Abernethy arrived, he went into the room in which the patient was to be brought, and looking on the instruments, &c., on the table, said, "Ay, yes, that is all right;" then, pausing for a moment, he said, "No, there is one thing you have forgotten;" and then throwing a napkin over the instruments, added, "It is bad enough for the poor patient to have to undergo an operation, without being obliged to see these terrible instruments."

Few people get off so badly in the world as poor gentlemen. There are multifarious provisions in this kingdom for all sorts of claimants, but a poor gentleman slips down between those which are not applicable to

his case, and those which are too repulsive to be practicable. His sensibilities remain, nay, perhaps are sharpened, and thus tend to increase his wants, and the difficulty of supplying them. There is here afforded a grateful opportunity for the indulgence of what we believe, amid some exceptions, to be the ruling spirit of medical men; a sensitive philanthropy, which no men in the world are more liberal in disbursing. Abernethy had his full share of this excellence. There are multitudes of instances exemplifying it; we give one, for which we are obliged to Mr. Brown, of the respected firm of Longman and Co. Abernethy was just stepping into his carriage to go and see the Duke of ——, to whom he had been sent for in a hurry, when a gentleman stopped him to say that he should be very glad if he could, at his leisure, pay Mr. —— another visit at Somers Town. Abernethy had seen this poor gentleman before, and advised a course which it appeared the patient had not resolution to follow. "Why," said Abernethy, "I can't go now; I am going in haste to see the Duke of ——." Then pausing a moment before he stepped into the carriage, he looked up to the coachman and said quietly, "Somers Town." This is very characteristic: the fidgety irritability of his first impression at interference, and the beneficence of his second thought.

Dr. Thomas Rees knew a gentleman who was a man of ability, who had been a long time ill, and who got a scanty living by his writings. Dr. Rees called on Abernethy one morning, and told him that the gentleman wished very much for his opinion, but that he had heard such accounts of him, he was half afraid to see him. "And if he were not," said Dr. Rees, "he is not

able to pay you. He is a great sufferer, and he gets his living by working his brains." "Ah!" said Abernethy, "where does he live, do you say?" "At ——," mentioning a place full two miles distant. Abernethy immediately rang the bell, ordered his carriage, visited the gentleman, and was most kind to him.

One day a pupil wished to consult him, and found him about ten minutes before lecture in the museum, looking over his preparations for lecture—rather a dangerous time, we should have said, for consultation. "I am afraid, Sir," said the pupil, "that I have a polypus in my nose, and I want you to look at it." No answer; but when he had sorted his preparations, he said, "Eh? What!" The pupil repeated his request. "Then stand upon your head; don't you see that all the light here comes from a skylight? How am I to look up your nose? Where do you live?" "Bartholomew Close." "What time do you get up?" "At eight." "That can't be, then." "What, Sir?" "You can not be at Bedford Row at nine?" "Yes, Sir, I will." "To-morrow morning, then." The pupil was punctual. Mr. Abernethy made a most careful examination of his nose, entered into the causes and nature of polypi, assured him that there was nothing of the sort, and exacted from him a promise that he would never look into his nose again. The gentleman, in his letter to me, adds, "This I have never done, and I am happy to say that there has never been any thing the matter."

He was indeed, as it appeared to us, most liberal in the mode of conducting his practice. When asked by a patient when he desired to see them again, it was at the longest period compatible with a reasonable obser-

vation of the case; and we doubt whether he ever took a fee where he had even a *doubt* as to the circumstances of the patient justifying his so doing. It would be easy to multiply examples of this, but it would be a constructive injustice to our profession to appear to bring things out in high relief, or as special excellences, which (notwithstanding some exceptions) from our hearts we believe to be a prevailing characteristic of the profession.

Abernethy had nearly all his life, without being improvident, been habitually careless of money; and although he left his family with a comfortable competency, which very properly left their position unaltered by his death, yet we doubt if ever any man, with the opportunity of making so much, availed himself of that opportunity so little.

It had become the fashion in Abernethy's latter days to speak lightly of him as an operator, and we have very little desire to rest any portion of his reputation on this branch of our duty. Nevertheless, when we first knew Abernethy, if we had had to be the subject of an operation, we knew no man to whom we should have submitted with the same confidence. He was considerate and humane; he did as he would be done by; and we have seen him perform those operations which are usually regarded as the most difficult as well as ever we have seen them performed by any body, and without any of that display or effect too often observed, and which is equally misplaced and disgusting.

His benevolent disposition led him to feel a great deal in regard to operations. Like Cheselden and Hunter, he regarded them, as in a scientific sense they truly are, the reproach of the profession, since, with the

exception of such as become necessary from accidents, they are almost all of them consequent on the imperfection of Surgery as a science.

Highly impulsive, Abernethy could not at all times prevent the expression of his feelings, when perhaps his humanity was most earnestly engaged in the suppression of them. It was usually an additional trial to him when a patient bore pain with fortitude.

One day he was performing rather a severe operation on a woman. He had, before commencing, said a few words of encouragement, as was usual with him, and the patient was bearing the operation with great fortitude. After suffering some seconds, she very earnestly but firmly said, "I hope, Sir, it will not be long." "No, indeed," earnestly replied Abernethy, "that would be too horrible."

In fact, he held operations altogether as occupying so low a place in our duties, and as having so little to do with the science of our profession, that there was very little in most of them to set against that repulsion which both his science and his humanity suggested.

As he advanced in life, his dislike to operations increased. He was apt to be fidgety and impatient. If things went smoothly, it was all very well, but if any untoward occurrence took place, he suffered a good deal, and it became unpleasant to assist him, but he was never unkind to the patient. It is, however, not always easy to estimate correctly the amount of operative dexterity. Hardly any man will perform a dozen operations in the same manner. We have seen a very bungling operator occasionally perform an operation extremely well, while the very worst operation we ever saw was performed by a man whose fame rested almost

entirely on his dexterity, and what made it the more startling was that it was nothing more than taking up the femoral artery. But whether it were that he was not well, or had been careless in the site of the first incision, or in opening the sheath of the vessels before he passed his ligature, or all of these causes in conjunction, we could not tell, because we were not quite near enough, but we never witnessed a more clumsy affair.

The conditions calculated to insure good operating are few and simple; there are both *moral* and medical conditions, but no familiarity ever enables a surgeon on any occasion *safely* to dispense with any of them. When they are all observed, operating usually becomes steady and uniform; when *any* of them are dispensed with or wanting, there is always risk of error and confusion.

We are afraid that we should be hardly excused, in a work of this kind, were we to lay down the canons to which we allude. We must therefore, at present, not enter further into the subject.

We must find space for a few remarks on the causes of Abernethy's occasional irritability, but we must not omit to mention a hoax that was played on him. He had been in particularly good spirits, as hilarious as a boy, and had proposed going to the theatre, where he had enjoyed himself very much. On reaching home, there was a message desiring his attendance at Harrow. This was a very unwelcome finale. The hoax had been clumsily managed, but it did not strike any body at the moment, so it was decided that Mr. Abernethy must go, and he took Mr. Skey with him. When they got to Harrow, they drove to the house of the surgeon, and, knocking him up, he came to the win-

dow in his night-cap, when the following dialogue began. The name of the patient we shall suppose to be Wilson.

"Does Mr. Wilson live here?"

"Who are you?"

"I say, then, is Mr. Wilson living here?"

"I say, what do you want? Who the d—l are you?"

"I say that I want to find a Mr. Wilson; and my name is Abernethy."

Immediately, says Mr. Skey, off flew the night-cap.

"I beg your pardon, Mr. Abernethy; what can I do for you?" &c.

"Is there a Mr. Wilson living here? and has he broken his leg?"

"Oh yes, Sir, he is living here, but he is very well, and has not met with any thing of the kind."

Abernethy laughed heartily, and ordered the post-boy to drive him home again.

There would be no difficulty in multiplying anecdotes given to Abernethy; but there are some objections to such a course. In the first place, there are many told of him which never happened; others, which may probably have happened, you find it impossible to authenticate; and, lastly, there is a third class, which, if they happened to Abernethy, certainly happened to others before Abernethy was born. In fact, when a man once gets a reputation of doing or saying odd things, every story in which the chief person is unknown or unremembered is given to the man whose reputation in this way is most remarkable. We need not say how impossible it is in a memoir of this kind to introduce with propriety matter thus apocryphal.

We have no doubt that, with a most benevolent disposition, Abernethy's manner, particularly as he advanced in years, evinced great irritability; and we believe that it was the result of two or three different causes, which in their combined influence got a mastery which the utmost resolution was not at all times able to control. It had formed the subject of numerous conversations between Abernethy and some of his most intimate friends, and we believe had arisen, and been unconsciously fostered by the following causes: "In early life he had been," as he told Dr. Thomas Rees, "particularly disgusted with the manner in which he had seen patients caressed and 'humbugged' by smooth and flattering modes of proceeding, and that he had early resolved to avoid that, at all events." He further observed, "I tried to learn my profession, and thinking I could teach it, I educated myself to do so; but as for private practice, of course I am obliged to do that too." We can easily understand how, in a sensitive mind, an anxiety to avoid an imputation of one kind might have led to an opposite extreme, and thus a negligence of ordinary courtesy might have taken the place of a disgusting assentation.

No doubt, however, a temper naturally impulsive would find in the perplexities which occasionally beset the practice of our profession too many occasions when the suggestions of spirit, which, though not always unwelcome to ruffled temper, and those of fear of improper assentation would unfortunately coincide, and thus lead to intermix and confound the observance of a praiseworthy caution with a yielding to an insidious habit. If to this were now added that increase of irritability which a disturbed and fidgety state of physique

never fails to furnish, and from which Abernethy greatly suffered, the habit would soon become dominant, and thus an originally good motive, left unguarded, be supplanted by an uncontrolled impulse. We believe this to have been the short explanation of Abernethy's manner; all we know of him seems to admit of this explanation. It was a habit, and required nothing but a check from his humanity or his good sense to correct it; but then this was just that which patients were not likely to know, and could have been still less expected to elicit.

Again, most men so celebrated are sure to be more or less spoiled. They become themselves insensibly influenced by that assentation which they have so justly despised in others. The moral seems to be, that the impulses of the most benevolent heart may be obscured or frustrated by an irritable temper; that habits the most faulty may rise from motives which in their origin were pure or praiseworthy; that it is the character of vice to tempt us by small beginnings; that, knowing her own deformity, she seldom fails to recommend herself as the representative, and too often to assume the garb of virtue; that the most just and benevolent are not safe, unless habitual self-government preside over the dictates of the intellect and the heart; and that the *impulse* to which *assent* is yielded to-day, may exert the influence of a command to-morrow; that, in fact, we must be masters or slaves.

"Rege animum qui nisi páret
Imperat."

When the editors of the medical periodicals first began to publish the lectures given at the different hos-

pitals, there was considerable discussion as to the propriety of so doing. The press, of course, defended its own views, in a spirit which, though not always unwelcome to readers, is frequently "wormwood" to the parties to whom the press may be opposed.

We are not lawyers, and therefore have no claim to an opinion, we suppose, on the right; but as regards the general effect of this custom as now practiced, we are afraid that, however advantageous it may be to the trade to obtain gratuitously these bulky contributions to their columns, we have serious doubts if it be any advantage to science, or to the character of our periodical literature.

The publicity which it gives to a man's name induces men to contribute matter which it would often have been, perhaps, more advantageous to them to have suppressed; and the proprietors, so long as a periodical "pays," are not likely to quarrel with that which they get for nothing but the expense of publication.

Mr. Abernethy was very much opposed to the publication of his lectures; but, though not insensible by any means to the occasionally caustic remarks of the press, does not seem to have been much annoyed by them.

The following is an extract from a letter, in which he expresses himself as opposed to the conduct of those who publish lectures without the permission of the authors. We suppress that part, because it involves his opinion of the conduct of individuals. As regards his personal feelings, he says,

"Though I have been so long in replying to your letter, I have felt very grateful for the kindness which induced you to take up the cudgels in my behalf. At

the same time, I must say that, had I been at your elbow, I should have hinted to you that the object was not worth the trouble you have been so good as to bestow upon it. No one can expect to escape slander and misrepresentation, and these are so commonly bestowed upon all, that they have little or no influence on the minds of persons of character and judgment.

"With many thanks and best wishes, I remain, my dear Sir, yours very sincerely,

"JOHN ABERNETHY."

SECTION.

When Mr. Abernethy was appointed *surgeon* to St. Bartholomew's Hospital in 1815, he had already been twenty-eight years assistant surgeon, and was therefore fifty years of age before he had an opportunity of taking an active share in the practical administration of the Hospital. This is one of the many effects of a system of which we shall presently give a sketch. He was therefore invested with the additional duties of Surgeon to the Hospital and Professor to the College of Surgeons at a time of life when most people who have commenced young, and labored hard with their intellects as distinguished from their hands, begin to feel their work. This was the case with Abernethy. We do not think that his original physical organization was to be complained of; he had been active and energetic; he was of moderate stature and well proportioned; had a magnificently-poised brain, judging phrenologically, and, in short, under favorable circumstances, apparently had the elements of long life; but we think that his organization, and especially the presiding power, the nervous system, was ill adapted either for the air, the

anxieties, or the habits of a crowded city, or the somewhat pestilential atmosphere of a dissecting-room.

We saw him, therefore, ageing at fifty very sensibly, and rather more than is in general observable at that period. He complained in 1817 of the fatigue of the College lectures, coming as they did on the completion of a season of the "mill-round of hospital tuition and practice;" so that when we mentioned the period of his lectures at the College as on so many accounts the zenith of his career, there was the serious drawback arising from a certain diminution of strength, which had never been, at best, equal to the *physical* fatigue of his multiform avocations. All this arose partly out of a system which, although, like all errors, not allowed to proceed without being charged with elements of remotely prospective correction, has been the parent of much mischief. This is what we have called the "hospital system," some of the more important features of which we must now present to our readers.

CHAPTER XXVIII.

THE HOSPITAL SYSTEM.

"Non hæc sine numine Divum.
Eveniunt."

ÆNEID, lib. ii., l. 777.

IF we would view any human institution dispassionately, we must distinguish the vices of system from the faults of those who administer it.

Trite as this remark may be, it is just one which is too frequently overlooked or unobserved. By a careful attention to the distinction it implies, we may develop

the elements of rational reform, as contrasted with Utopian schemes, which, whatever of abstract truth they may contain, are useless, simply because they are impracticable. We can not effect any material change in human nature by any summary legislation, nor prevent the obtrusive necessities of daily life from bringing down the soaring aspirations of mind to the humble level of the practicabilities of matter. Whoever, therefore, expects that any body of men, invested with irresponsible power, will hesitate to exercise it so as to procure, as they believe, the maximum of advantage to themselves, might just as hopefully quarrel with the negro on account of his complexion. Do what you may, Man is Man "for a' that;" but while it is necessary to remember this, it is by no means so to do it in a spirit of unkindness or hostility—not in any sense opposed to brotherly love; but, on the contrary, to promote universal harmony and good feeling by removing the temptations which experience has shown to be influential in disturbing such relations.

Neither should we quarrel with a man who endeavors to do the best he can for his family and friends. Should he even, in this pursuit, compromise his duty to the public, it is very possible that the objects which he had in view may have been in themselves praiseworthy, and therefore, instead of exasperating our blame, may readily extenuate faults which it may be impossible entirely to excuse.

The truth is, that the interest of the public and of individuals is seldom, if ever, incompatible; the occasions on which they appear to be so are not unfrequent; those in which they really clash are extremely rare.

Wherever circumstances occur in which the temptation of a present fruition is found habitually to lead men to courses which, however apparently promotive of their own interest, are really injurious to those of the public; it becomes very necessary that the public should impose some safeguards against such an injurious exercise of power.

The hospitals of London, as we have formerly observed, are in the main very fine institutions. They are many of them very wealthy, which generally means powerful also.

The governors, as they are termed, consist of certain noblemen and gentlemen, the latter being for the most part drawn from the more wealthy sections of the mercantile and trading classes of society.

The knowledge possessed by these gentlemen of the requisitions of a large public hospital must (special instances excepted) be very measured, and be, in the main, derived from the medical officers with whom they are associated.

It thus happens that the administration of the hospital is in great part confided, as with some restrictions it ought to be, to the medical officers. The interests of these gentlemen, it may be assumed, would be best promoted by carrying out in the most efficient manner the benevolent objects of the institution, and we believe, looked at fairly and comprehensively, this would be really the case. The duties of a large hospital, however, if they are to be performed conscientiously, require much time, not a little labor, and some health to boot. Now all these, in a crowded community, are very costly articles, and which must in justice, and what is material, in fact too, be fairly remunerated.

The public never really pay so dearly as when they appear to get labor for nothing.

Here we come to the first defect in the "Hospital System."

It might be supposed that, with ample means, the hospitals, by adopting such tests as were in their power, would have secured the most efficient officers, by paying them remunerative salaries; and having retained them as long as their services were deemed efficient, or the length of them justified, by relieving them from the necessity of further exertion by a retiring pension. No such thing. The hospital gives nothing; actually, there is a small nominal retaining fee, as it were, of about £60 a year, and the medical officer is left to obtain his remuneration for time, trouble, and health by such private practice as his reputation, or the *prestige* of being attached to a hospital may afford, from fees from pupils, or such other means as the position he occupies may place within his power.

He very naturally sets to work to do the best he can, and from this first budding we very soon arrive at the full blossom of the system; one effect of which is, that in hospitals which have so large a care of the public health—institutions which, whether correctly or incorrectly, give so much of the tone to the medical opinions of the day—which exert, either directly or indirectly, an influence on the claims of hundreds to public confidence—in these hospitals there is not one single surgeoncy that is fairly and *bonâ fide* open to scientific competition.

Let us now examine a little into the machinery by which these results are brought out.

The experience afforded by the hospitals necessarily

supplies abundant means of instructing students in surgery. They are accordingly admitted on paying certain fees to the surgeon, and this at once supplies a large revenue. This revenue is of course regulated by the number of pupils, and there are in London many hospitals, so of course there is an active competition. Thus, some time before the season commences, the advertisements of the medical schools occupy a considerable space in the Times newspaper, and circulars are also liberally distributed.

Well, the points here, as in all other cases, are the advantages offered and the price paid—the maximum and minimum respectively. Now here there are some elements of evil.

Students are not always, and before they try it, hardly ever judges of a school. The general reputation of a man, as he is never subjected to competition, is no test whatever of his comparative power in *teaching* students; but they are accustomed to ascribe great importance to operations, and, *cæteris paribus*, they incline to prefer that hospital where the greatest number of them are supposed to be performed.

This arises from various causes, in some of which the public play no unimportant part. The student has perhaps seen in the country a good deal of medical and surgical practice, but very few operations. His stay in London is comparatively short, averaging perhaps not more than the better part of two years; unnecessary length of time is generally inconvenient, always expensive, and the student is naturally anxious to see most of that which he will have least opportunity of observing elsewhere. Moreover, he knows that when he returns to the country he may save twenty limbs

before he obtains the same amount of *reputation* that he may possibly get by *one amputation.*

The ignorance of the public here is in not appreciating results which very probably involved the exercise of the highest talent, while they are ready to confer a very profitable distinction on that which does not necessarily involve any talent at all. We have no wish whatever, and certainly there is no necessity, for straining any point in reference to this very serious matter; but these two facts are indisputable: that the surgeons obtain their remuneration from the hospitals by the fees they obtain from the pupils; and, *cæteris paribus*, the pupils will flock the thickest where they expect to see most operations.

The next thing that we would submit is that the *prestige* in favor of operations is both directly and indirectly opposed to the progress of scientific surgery. Almost all operations, commonly so termed, are examples of defective science. To practical common sense, therefore, it would appear a very infelicitous mode of obtaining the maximum of a man's genius in aid of the diminution of operations, to open to him a prospect of enriching himself by the multiplication of them. We desire to consider the subject with reference to its scientific bearings only, and would avoid entirely, were that possible, any appeal merely to the feelings. Such impulses, however right, are apt to be paroxysmal and uncertain unless supported by the intellect. But on such a subject the feelings must necessarily become more or less interested. Wherever a system takes a wrong direction, a great many minor evils insensibly grow out of it.

The erection of a theatre for the purpose of opera-

ting, though founded on a feasible pretext, is a very questionable measure, and, unless of clear advantage to the profession or the public, is surely not without some character of repulsion. As regards art or science, it is certain that not more than twenty or thirty can be near enough in the theatre to see any thing that can be really instructive in the performance of operations, while, in the absence of actual advantages, an exhibition of this kind is more calculated to give publicity to the surgeon operating, than it is to raise the tone or chasten the feelings of men about to enter a profession which almost daily establishes requisitions for our highest faculties—operations without opportunities of real instruction are merely unprofitable expenditure of valuable time. Besides, that which is viewed as a sort of exhibition to-day, may be with difficulty regarded in the light of a serious duty to-morrow. Were the object to tax the sensibility of a student, and blind him to any higher association with pain and suffering than that afforded by custom and chloroform, and to replace a dignified self-possession and sympathy with suffering, which each kept the other in due control, by an indifference to every thing save adroitness of manipulation and mechanical display, no machinery could be better calculated to effect such objects; but science and humanity require very different qualifications, and experience has shown that they are neither incompatible nor beyond our power.

The humanity and science that beholds in operative surgery the lowest of our employments, and which would thus be impelled to seek, and, as experience has taught us, to seek successfully to diminish the number of such exhibitions, and to lessen the suffering

of those which are still retained, is perfectly compatible with coolness and skill in the performance of them.

When we speak of lessening pain, we must not be understood as alluding to chloroform or agencies of that kind. We have, on the contrary, the greatest distrust of their utility; we do not hesitate to admit the propriety of their use in certain cases, but we are satisfied that, as at present employed, a very few years will make a great change. Many a so-called incurable case has been shown to be curable by the hesitation of the patient to submit to an operation. We have published some ourselves wherein we joined in recommending the measure which the patient declined. Many deaths that we *do know* have already occurred from the use of chloroform; and a *significant* remark was made by a man who had considerable reputation in this way: he said, "Chloroform is a good thing for operating surgeons." To return from this digression.

The most distinguished surgeons ever produced in this country have exemplified the qualities I have mentioned in the highest degree. I must mention two more particularly, Cheselden and John Hunter; the former, the most expert and successful of his day, in the European sense of the word, has left us a satisfactory declaration on this subject. Cheselden acknowledges that he seldom slept much the night previous to the day on which he had any important operation; but that, once engaged in operating, he was always firm, and his hand never trembled. John Hunter was not only a good operator himself, but he deduced from observation one of the greatest improvements in operative surgery. His discovery had all the elements of improvement that are possible in this branch of the profession.

An operation which had been founded upon erroneous views of the nature and relations of the parts affected—which had been always tedious and painful in performance—which, whether successful or not, entailed much subsequent suffering—which in its results was highly dangerous, and which was very commonly followed by the loss of the limb or life, was replaced by one founded on more correct views of the disease, easy and simple in its execution, occupying not more than a very few minutes, and which, so far as regards the purpose for which it was instituted, and to which it should be restricted, is almost invariably successful. If it be performed under circumstances implying conditions *contrary to those on which Mr. Hunter's operation was founded*, very different results have no doubt taken place; but when properly applied, his operation for aneurism is no doubt one of the greatest in operative surgery.

John Hunter treats of operations in terms which show how low he rated that part of our duties. He speaks of them as humiliating examples of the imperfection of our science, and figures to himself an operator under the repulsive symbol of an armed savage.* The truth is, that operations, to be performed properly, must be properly studied. They must be frequently performed on the dead, and afterward carefully examined. There is a wide difference between neglecting a necessary study and making that the test of science, which is the most emphatic proof of its imperfection. We have no lack of experience in this branch of the

* He says, "No surgeon should approach the victim of his operation without a sacred dread and reluctance, and should be superior to that popular *éclat* generally attending painful operations, often only because they are so, or because they are expensive to the patient." —P. 210

profession, and have included not a few operations which are too commonly delivered over to men who are said to devote themselves to special objects; and we are satisfied in entertaining the views which the most distinguished men have held on this subject, while we are persuaded that few things have contributed more to impede the progress of science than the *abuse* of operations.

To return to the hospitals.

The positions which had at first been left without any remuneration, become, by the described machinery, very lucrative directly by the fees paid by the pupils, and indirectly, in some cases, by keeping the surgeon constantly before the public. Any *prestige*, therefore, in obtaining these appointments, is of great value; but if that do not really involve *professional excellence*, it is as plain as possible that the public may be very badly served, and an evil generated equally opposed to the interests of science and humanity. It is obvious that the only legitimate grounds of eligibility are moral and professional superiority, as determined by the test adopted at public schools and universities, namely, public competition. Now what are the tests employed? Without meaning to insinuate that moral or professional eligibility is *wholly* disregarded—no system in these days will support that—still, the eligibility depends on the qualification which few would beforehand have imagined. It is certainly something better than Mr. Macaulay's joke in relation to the proposed franchise to the Militia, namely, that the elector should be five feet two, but something not much more elevated, namely, that a bounty should have been paid to one of the hospital surgeons in the shape of an apprentice

fee, thus making the holding one of the most responsible offices in the profession a condition which absolutely ignores relative eligibility of skill, steadiness, assiduity, and humanity, and which recognizes them only in such shape that the possession of office is practically made to depend on a point absolutely extrinsic to any one important requisition recognized by the public or the profession.

We need not insist on the tendency of this system to the protection of idleness and incapacity, or the injustice inseparable from it to the young gentlemen whose interests it is supposed to guard. One necessary consequence is obvious, namely, that the hospitals, instead of having to select from the general body of pupils, or from the more industrious or talented of them, is obliged to choose from a very small minority.

It is, in fact, just as if scholarships and fellowships at public schools and universities were conferred without any reference to the proofs which the candidates might have given of their talents or industry, but were determined by their having given a certain fee to a particular professor. Would any man in his senses doubt as to the influence of such a plan on the interests of classical literature or mathematical science? It seems to us impossible that men should really differ on that point, or hesitate to admit that, *mutatis mutandis*, whatever the science might be, so far as the cultivation of it could be influenced by system, the result must be alike prejudicial in all cases. We are, however, far from arriving at the end of the system by this general statement.

The public and the government, uninformed or unmindful of this "system," wish to consult authorities

on professional matters. They not unnaturally look to those who hold public appointments, because these afford the *prestige* of extensive opportunity, which is supposed to imply, and, under a fair system, would insure, skill and experience. Men are apt to look at a man's position without stopping to inquire *how* it was obtained, and, although position may in particular instances cut both ways, and in particular instances "throw a cruel sunshine" over incapacity, still, among gentlemen, extreme cases are not to be expected; the rule is much more likely to be a respectable and protected mediocrity, which is just that tone which has rarely done any thing to enlarge the boundaries of any kind of knowledge.

It happens, however, from the "system," and the position thus given to those who are supposed to profit by it, that the interests of the poor, and, in a considerable degree, those of the rich also, are to a very large sense confided to their care.

It thus follows that positions in themselves highly desirable, and which enable men to exert considerable influence on the progress of a science, on the sound condition of which the physical comforts, and, in no small degree, the moral condition of mankind depends, are occupied by men who have undergone none of those tests which public competition alone affords, and which the *summi honores* of almost every other profession either directly or indirectly imply. So far for one mode in which the interests of the public are concerned; but there are many other channels. The government, ignoring the influences of this system, have placed the regulation of the surgical branch of the profession in the hands of a body of men whom, when we examine,

we find to be no other than the apprentices we had recognized at the hospital, grown into the full bloom of a legislative body, whence again are chosen presidents, vice-presidents, examiners, &c., of the College of Surgeons!

If, fatigued with this machinery, we walk to the Royal Medical and Chirurgical Society—a chartered body for the especial cultivation of science—we meet, as its name would imply, a number of our honored brothers, the physicians; but here we find that, whether we observe presidents or any other officers, the influence exerted by the apprentice system continues, and that, in *almost* every thing surgical, the *best possible* individual is an apprentice who has attained his first position without any public competition. We hope and believe that the point of the wedge is already inserted which will, at no distant period, rend asunder this system, which we shall not trust ourselves by attempting to characterize further. But there are points in connection with the interests of science and of Abernethy which require yet to be noticed.

We need scarcely observe that it would be very desirable that the interests of the science should be intrusted to those who had shown most assiduity or talent in the cultivation of them; that, if operative surgery be really, as a whole, a series of facts exemplifying the defects of a science, while every pains should be taken that what is necessary should be done thoroughly well, all factitious inducement to multiply their number should be avoided, and especially any which tended to increase emolument commensurately with their multiplication.

That, as operations (with some few exceptions) mere-

ly minister to effects, their real bearings on disease can only be estimated by knowing the *ultimate result* of the case; and that, in order to this effect, returns of all operations should be kept, with full accounts of the case; the addresses of the patients should also be taken, and such means as were obvious and practicable employed to obtain the *ultimate result* of the case.

Another point which should be attended to in hospitals is an accurate notation and return of all cases whatever, so that we might obtain from statistical records whatever light they might be capable of affording in aid of the prosecution of a definite science. In this return, a full history, and *all* the phenomena of the case which are known to have an influence on the body, should be accurately noted, and in tabular forms convenient for reference.

The defects of the hospitals in this respect are too well known to require comment, and we think the profession indebted to Dr. Webster for the exertions he has made to draw attention to this subject. In no respect are the hospitals more defective than as regards the division of labor. To supply the requisitions of a yet dawning science, there is too much confided to one surgeon, for at present the practical administration and the scientific investigation should be confided to the same hand. If more be intrusted to one man than can be performed without great labor, and the greater labor be voluntary, we shall have little chance of obtaining that full and accurate notation of facts which all cases furnish more or less the means of obtaining, and without which the evolution of the maximum of human ability is absolutely impossible. It seems to us also an imperative duty to avail ourselves of the experience

afforded by the history of other sciences in the cultivation of our own.

All sciences have been in as bad a condition, or worse, than medicine and surgery; all sciences have progressed immediately that they were investigated on a rational plan—a plan which, simply stated, is little more than the bringing together *all the facts* that can be perceived to bear any relation to the inquiry, and reasoning on them according to *well-established* and necessary conditions. If this be the case, and this plan has never been applied to the investigation of medical science, we know not how those who are placed in positions which supply the necessary means can be excused, or how we can halt between condemning the system under which such a flagitious neglect of the claims of science and mankind is exemplified. It is true, when we arrive at the acmé of our convictions of the effects of such a system, our reflections remind us that such things are "permitted," and that ultimately they will work for good; that man is not destined to interfere with the ultimate plan and designs of Providence, however he may be allowed to place his intellect under the direction of a responsible volition, and to discover the path to the temple of truth only after having fruitlessly threaded the mazes of error and conjecture.

CHAPTER XXIX.

"Quanto quisque sibi plura negaverit
Ab Dis plura feret."

We believe that there is no greater fallacy than that which supposes that private advantage can be promoted at the expense of the public good. We are very well disposed to believe that selfish people are the very worst caterers for the real interests of the idol they worship. The more we consider the Hospital System, the more reason shall we find to distrust it; and we by no means exclude that very point wherein it is supposed to be most successful, namely, in securing the pecuniary advantage of those whose interests it is supposed to guard.

Of the apprentices, we shall say little more than to express our belief that many of them have lived to obtain the conviction that they would have done much better had they not been fed by hopes that were never realized. All apprentices can not, of course, be surgeons. Again, if, in the course of a century, a solitary instance or two should occur of the success of an unapprenticed candidate, they not unnaturally feel it as an injustice in thus being deprived of that, the special eligibility to which was a plea for the exaction of a large apprentice fee. But to the surgeons themselves, it seems to us that the system is far from realizing the benefits that its manifold evils are supposed to secure. The adage that "Curses, like chickens, come home to roost," is far from inapplicable. After all, many of the

hospital surgeons are little known; and the public inference with regard to men invested with such splendid opportunities of distinguishing themselves is not always very flattering. Mr. Abernethy, so far from benefiting from the system, appears to us to have suffered from it in every way.

His talents, both natural and acquired, would have given him every thing to hope and nothing to fear from the severest competition, while the positive effects of the system were such as to deprive him of what was justly his due, and to imbitter a retirement which, in the barest justice, should have been graced by every thing that could add to his peace, his honor, or his happiness, from the institution whose character he had exalted and maintained, and whose school he had founded.

But let us look at the facts. The system which pronounces that there shall be three surgeons to attend to some 500 or 600 patients (*for the purposes of science*, the next thing to an impossibility), kept Abernethy twenty-eight years an assistant surgeon. During this time he was filling the hospital with students to the amount of sums varying from £2000 to £3000 a year, of which, in the said twenty-eight years, he never received one farthing.

He saw from time to time men, of whose capacities we know he had the highest opinion, shut out from the hospital by the mere circumstance of their not being apprentices; and two of these were the late Professor Macartney, of Dublin, and the present distinguished Professor of Comparative Anatomy, Professor Owen. And here we must pause to record one of our numerous obligations to the perceptivity and justice of Abernethy. We have formerly observed that, at the very

commencement of life, he had been accustomed to inculcate the importance of studying comparative anatomy and physiology, in order to obtain clear views of the functions of man; but all arrangements made with this view, from the time of Mr. Hunter onward, though varying in degree, still were inefficient. It was next to an impossibility to combine an availing pursuit of a science which combines an inquiry into the structure and functions of the whole animal kingdom with the daily exigencies of an anxious profession.

When Mr. Owen had completed his education, his thoughts were directed to a surgeoncy in the navy, as combining a professional appointment with the possibility of pursuing, with increased opportunities of observation, his favorite study. Fortunately for science, he went to Abernethy, who requested him to pause. He said, "You know the hospital will not have any but apprentices. Macartney left on that account. Stay," said he, "and allow me to think the matter over." This resulted in his proposing to the council of the College of Surgeons that there should be a *permanent* Professor of Comparative Anatomy, and that the appointment should be given to Mr. Owen.

This is among the many proofs of Abernethy's perception of character. Mr. Owen had dissected for lecture; and Abernethy saw, or thought he saw, a peculiar aptitude for more general and enlarged anatomical investigation. The whole world now knows how nobly the Professor has justified the hopes of his talented master. It would be out of place for us to attempt a compliment to a man so distinguished in a science wherein the varied pursuits of a practical profession allow us to be mere amateurs, neither do we wish to

forget other gentlemen who distinguish themselves in this branch of science; but we believe that most competent judges allow that the celebrated Cuvier has not left any more fitted to appreciate his excellence, or who has more contributed to extend that science of which the Baron was so distinguished a leader, than Professor Owen.

There is one incident, however, in the Professor's labors, which, for our own purposes, we must relate, because we shall have to refer to it in our humble exhortation to the public and the profession to believe in the practicability of raising medicine and surgery into a definite science. The incident shows what may be done by that mode of investigation which is the still delayed desideratum in medicine and surgery, namely, the *most comprehensive* record of facts, and the study of their minutest relations. Professor Cuvier was the first to impress, in a special manner, that those beautiful relations in the structure of animals, so many of which are even popularly familiar, extended throughout the animal, so that if any one part, however apparently subordinate, were changed, so accurate were the adaptations of nature, that all the parts underwent some corresponding modification, so that diversity of structure in a part affected more or less the whole animal.

The beautiful result of all this is, that if these relations be once thoroughly mastered, then any one part of an animal, to the philosopher so prepared, necessarily suggests to him, in general terms, the nature of the animal to whom it belonged. Few instances, however, so remarkable as the one we are about to mention, could have been anticipated.

A sea-faring man brought a piece of bone, about three or four inches in length, as he said, from New Zealand, and offered it for sale at one or two museums, and, among others at the College of Surgeons. We shall not here detain the reader by telling all that happened. These things are often brought with intent to deceive, and with false allegations. Most of those to whom the bone was submitted dismissed it as worthless, or manifested their incredulity; among other guesses, some insinuated that they had seen bones very like it at the London Tavern, regarding it, in fact, as part of an old marrow-bone, to which it bore, on a superficial view, some resemblance. At length it was brought to Professor Owen, who, having looked at it carefully, thought it right to investigate it more narrowly; and, after much consideration, he ventured to pronounce his opinion. This opinion from almost any body else would have been, perhaps, only laughed at; for, in the first place, he said that the bone (big enough, as we have seen, to suggest that it had belonged to an ox) had belonged to a bird; but, before people had had time to recover from their surprise or other sensation created by this announcement, they were greeted by another assertion yet more startling, namely, that it had been a bird without wings.

Now we happen to know a good deal of this story, and that the incredulity and doubt with which the opinion was received was too great for a time even for the authority of Professor Owen entirely to dispel. But mark the truthfulness of a real science! contemplate the exquisite beauty and accuracy of relation in nature! By-and-by a whole skeleton was brought over to this country, when the opinion of the Professor was

converted into an established fact. Nor was this all; there was this appropriate symbol to perpetuate the triumph—that which had appeared as the most startling feature of what had been scarcely better received than as a wild conjecture, was so accurate in fact as to form the most appropriate name to the animal thus discovered.*

It would be unjust to others to attribute the whole of Professor Owen's appointment to Abernethy; that the state of things did not place within his single power; but his penetration was the first to suggest, and his weight most potential in securing, an appointment which various circumstances, besides the merits of the individual, bring up in high relief as the best ever made by the College of Surgeons in England.

To return to the Hospital System as affecting Abernethy. He continued to lecture, and the emoluments arising thence he of course enjoyed. Until 1815, the whole of the hospital fees were taken by the surgeons in chief. These fees, in twenty-eight years (allowing a reasonable deduction for those pupils who went to the school, independently of the inducement offered by the most attractive lecturer ever known), must have amounted to an enormous sum. Having raised the school, he became surgeon at about fifty years of age, and then retired at sixty-two, under circumstances we shall presently mention. On retiring, unpleasant altercations arose, which, with others not long antecedent, we are obliged reluctantly to mention, and which rendered his concluding associations with the Hospital scarcely more agreeable than they had been at the College of Surgeons.

* It was accordingly named the Apteryx, or wingless, from the Greek, Alpha and Pterux.

Mr. Abernethy had appointed, as we have seen, Mr. Stanley his demonstrator, and some of Mr. Stanley's friends allege, in no very measured language, that he treated that gentleman ill. This appeared to us such an absurdity, that we began to think there might be something in the matter with which we were uninformed; and, as we had no desire to conceal any thing, or to represent a "faultless monster which the world ne'er saw," we wrote to Mr. Stanley to say, that if there were any evidence, documentary or other, in his possession, we would include it in our narrative, either *in extenso* if not very long, or if long, in such an abbreviated form as he or any friend of his should determine to be faithful. To this we received a reply, simply stating this gentleman's "disinclination" to make any communication on the subject.

With regard to the propriety, the courtesy, or the motive of this "disinclination," we offer no opinion. The reader may form his own from the very brief narrative for which we can alone find space; or, if he wishes for more light, he may obtain it from the periodicals of the time (1828). The essential facts were as follows: Mr. Stanley had not even been an apprentice of Mr. Abernethy; having been bound to a Mr. Ramsden, he had no claims on Mr. Abernethy arising out of the "system," nor were there any circumstances of a subordinate kind to afford Mr. Abernethy any special inducement. There was nothing very potential for the interests of the school to induce Mr. Abernethy to appoint him. His humble but respectable origin, a homely and not very popular manner, which, as obstacles which too frequently stand in a man's way, reflect the more credit on his progress, were no particu-

lar advantages in a school. In fact, few men have ever been so fortunate or so well paid for their industry as to have, without any public competition, a position for which the most distinguished pupils of the school would gladly have contended.

In time, Mr. Abernethy gave Mr. Stanley a share in the Anatomical Lectures. On this occasion two new demonstrators were appointed; but in the advertisements announcing the arrangements of the ensuing season, Mr. Stanley was still advertised as about to give some of the demonstrations which were really to be given by the new demonstrators.

There was really very little more in this than a mere form, because there was a general understanding that if the newly-appointed demonstrators were not approved of, the demonstrations would be given by the gentleman who had previously held the appointment.

The times were somewhat agitated, and the pupils complained; and some very disagreeable meetings took place in consequence.

Mr. Abernethy alleged that Mr. Stanley put in the advertisements, which was admitted; but it was alleged by Mr. Stanley that he did so by order of Mr. Abernethy, and that he was not "free to act."

The case seems to us to be simply this: If Mr. Abernethy did, either by himself or through Mr. Stanley, put the advertisements in *without the understanding that* Mr. Stanley was to continue the demonstrations, if circumstances required it, he certainly did wrong; but it should be remembered that none of this *was proved.* But we do not see that this betters Mr. Stanley's position. The only pecuniary gainer was to be Mr. Stanley; and it appears that either he himself put in the

advertisements, advertising himself as about to give demonstrations, which, subject to certain conditions, were to be given to others, or allowed Mr. Abernethy to order him to do that of which he (Mr. Stanley) disapproved, and in which he was practically the principal party concerned. For our parts, we are at a loss to determine the superiority of these two positions.

Another charge against Mr. Abernethy was, that in a school which he had raised by his own transcendent talents, and was about to deliver with a numerous class to two gentlemen who had never helped to form it—whose assistance in the school had been paid by salary, and who thereby occupied positions for which, had they been admitted, there would have been very many competitors—that in a school so constituted Mr. Abernethy should have desired to secure a place for his son, when he should become qualified for the same; moreover, that he should have wished Mr. Stanley to enter into a bond for that purpose.

Now we confess to an entire disapproval of all bonds for such purposes, and we think that Mr. Stanley's declining to enter into it was very natural. It might be very proper for Mr. Abernethy, with a large family of daughters and only one son, to require such a security, but we think it equally so in Mr. Stanley, with a large family, to decline it. But when we are called upon to admit that it was wrong, we must confess that we can not see it. There was no parallel to the single-arm force by which Mr. Abernethy had raised the rich inheritance he was leaving; and to talk of that as ill treating Mr. Stanley, which was a parent's justice to his only son, which was nothing more than an attempt to secure to him, *when qualified*, what certainly, if

qualified, he would have had the strongest possible claim to, appears to us neither more nor less than arrant nonsense. We shall not attempt to insult the common sense of our readers by attempting a defense where there is no crime.

The stormy virtue of some people is very amusing. When other people's interests are alone concerned, it is like what hurricanes are now said to be—enormous whirlwinds, into whose vortices every body's faults are drawn with indiscriminate voracity; but when their own are concerned, there is an easy calmness which looks with complacent eye on *the necessary expediencies of life*, and declares all beyond to be moonshine or Utopianism.

A curious incident occurred in illustration of this about that time. Sir Astley Cooper had, without the smallest intention to give offense, made some observation on the somewhat too free use of some medicine (mercury) at that time in the Borough Hospitals. His observations having been misunderstood or misrepresented, he took occasion to remove any idea of intentional offense by addressing the class. Among other things, he is reported to have said, "Why, gentlemen, was it likely that I should say any thing unkind toward these gentlemen? Is not Mr. Green my godson (surgeon of St. Thomas's), Mr. Tyrrel my nephew, Mr. Travers my apprentice (surgeons of St. Thomas's), Mr. Key my nephew, Mr. Cooper my nephew?" (surgeons of Guy's).

This was very *naïve*, and a good illustration of the value of evidence in relation to one thing which is stated in relation to another.

But we have no desire to say more on this subject than to express our conviction that no man ever did

more for another, in the worldly sense of the word, than (respective relations considered) Mr. Abernethy did for Mr. Stanley. It is not in the power of any one man to do more by position than to furnish the *elements* for the fortune of another. The combining of them depends on the individual; and whether that exist or not in the present case is not important, as we are happy to hear that fortune has in another way rendered it unnecessary; we have only to regret that any circumstances should have led to the expression of a "disinclination," where a contrary sentiment might have been so gracefully indulged in, and with no greater advantage to any body than to Mr. Stanley.

The whole of Mr. Abernethy's closing career at the Hospital gave him no great reason to rejoice at the Hospital System. Men who could see nothing in leaving very much more important situations to an indefinite succession of apprentices, caviled at a prospective lectureship for his only son; while his lectures were delivered over to two gentlemen, one of whom had from an early period ridiculed, as he said, the opinions which he taught as, and which we now know to have been, John Hunter's, and another, with whom there had been several not very pleasing associations.

This was necessarily a result of the "Hospital System;" a system that gave a still more melancholy and fatal close to the labors of John Hunter, whose death took place suddenly in the board-room of St. George's Hospital, while resisting an interference with a privilege which his love of science rendered valuable to him, and which it was for the interests of science that he should enjoy; but, mournful as these results are, and many others that might be added, still, if we found

that the system worked well for science, we might rest satisfied; but is it so? What advances have hospital surgeons of London, under the apprentice system, made in the science of surgery? Let those answer the question who are desirous of maintaining this system. For our own parts, the retrospect seems to show the system in a more complete manner than any thing we have yet stated. John Hunter, that *primus inter omnes*, was no hospital apprentice; he migrated from St. Bartholomew's, where the rule was too exclusive to give him a chance, to St. George's, where he obtained admittance; St. Bartholomew's preserved the system and lost Hunter.

Abernethy was an apprentice truly; but all those glorious labors which shed such a lustre on his profession and such a benefit on mankind, were completed long before he became surgeon to St. Bartholomew's Hospital; and it is material to repeat, that at that time the assistant surgeons, with the exceptions already stated, had nothing to do. In casting our eyes over the retrospect of years, one honored name attracts our notice in connection with a real advance in the knowledge of the functions of nerves. We allude to Sir Charles Bell; but here again the system is unfortunate, for Sir Charles was never a hospital apprentice at all, and only succeeded to a post in a London hospital after an open canvass in an institution in which the narrow portal of the apprentice system is unrecognized. Still we see signs of a "*Delenda est Carthago;*" as we have said, the point of the wedge is inserted, and a very little extension of public information will at no distant period drive it home.

In the mean time, Science, instead of being in a po-

sition to receive every quackery as a means of demonstrating the superior beauty of truth, by placing it in contrast with error, is obliged to regard any absurdity, however gross, as one of the hydra-headed fallacies through which we are to evolve what is true only by the circuitous path of exhausting the resources of hypothesis and conjecture, while sweeping epidemics, which, wholesomely regarded, should be looked on reverently as besoms of destruction, are hailed by the observant as melancholy but necessary impulses to drive us to the adoption of measures to which our capital of common sense is not sufficient to induce us to listen.

Neither are the old hospitals the only parts of a defective system. In others we observe the signs of the prurient appetencies of trade usurping the lofty aspirations of science. There is no hospital in London that yet has even a country establishment of its own for convalescents, while of two of the more recently established ones, one is built over a church-yard, and the other, intended only for the relief of decarbonizing organs, is built in the immediate neighborhood of the most smoky metropolis in Europe. Both, instead of being the most distinguished illustrations of the progress of sanitary and physiological science, are, on the contrary, emphatic examples of their violation.

CHAPTER XXX.

"There is no doubt but men of genius and leisure may carry our method to greater perfection, but, having had long experience, we have found none equal to it for the commodiousness it affords in working with the Understanding."—Lord Bacon, vol. iii., p 316, 4th ed.

In tracing the progress of science, it is very difficult to assign to each individual his just share of merit. The evidence, always more or less incomplete, seldom allows us to do more than to mark the more fortunate, to whom, as it were, the principal parts have been allotted. The exposition of truth generally implies a previous contest with error; this may, in one sense, be compared with military achievements. We hear of the skill and wisdom of the general and his associate chiefs, but little is known of individual prowess on the multiplication of which the result so commonly depends.

To one who conferred so many obligations on his country and on mankind as Abernethy, it is difficult to assign only his just share, and yet it is most desirable that nothing be ascribed to him which is doubtful or disputable.

Antecedently to Mr. Abernethy's time, and contemporaneous with the date of Mr. Hunter's labors, surgery had, in the best hands, and as a mere practical *art*, arrived at a very respectable position; still, in Abernethy's early day, barber-surgeons were not yet extinct, and, as he used jocosely to phrase it, he himself had "doffed his cap" to barber-surgeons. There is no doubt that some of them had arrived at a very useful knowl-

edge. The celebrated Ambrose Paré was a French barber-surgeon. When Abernethy entered into life, the best representative of the regular surgery *of that day* was Mr. Pott, who was contemporary with the period of Mr. Hunter's labors. Mr. Pott was a good surgeon, an eloquent lecturer, a scholar, and a gentleman, and he gave some surgical lectures at St. Bartholomew's Hospital. We have perused two manuscript copies of these lectures, which are in the library of the Royal Medical and Chirurgical Society, and they contain many useful and judicious observations. There are ripples of a more humane and scientific surgery, and many parts that are suggestive of onward study. Pott had also the good sense to perceive the measured pretensions of his own time, and to predict advances on it as great as that itself was on the surgery of his predecessors; but we do not perceive any thing in Pott's lectures in the shape of a science. *Extensive* generalizations we are not thinking of—we have them yet to get; but we see nothing, in the true sense of the word, even axiomatic; there are no steps, no axioms, by which we can reach the platform of more general propositions. In some of his operations, the most elementary principles are either not perceived or neglected; and although there are general recognitions of the state of the health influencing the so-called surgical maladies, there is no definite principle developed. It is a recognition scarcely more than that implied in the older surgical writers, when, if the surgical part of a case did not go on well, they recommended the calling in of a physician.

In this state of things, John Hunter began a beautifully simple, and, in its bearings on surgery, we may add, a new mode of inquiry. He saw that there was

much in all animals that was common, and that there were analogies in the whole organic kingdom of nature; hence he sought to develop, by observation of the various processes in various animals, and their nearest analogies in vegetables also, the real nature of various phenomena in man. It was not that he did that which had never been attempted before in the abstract, but that he undertook it with a new, a concentrated unity of purpose. He did not employ, as it were, a different instrument to collect the rays of light from surrounding nature, but he concentrated them into a focus on a different object—the nature and treatment of disease. His labors, though not permitted to endure for many years, interrupted by indisposition, and suddenly stopped by death, were abundantly fruitful, and enabled him to simplify much of surgery that was officious and hurtful, and to correct many errors. He first gave a reason for this or that proceeding, founded on actual observation of natural processes: thus, in healing of wounds, the natural and healthy were distinguished from unnatural and unhealthy processes, and so forth. But as Mr. Hunter's enlarged views taught him the value of the relations observable throughout the whole animal creation, he contemplated parts of the body only as a step to the more successful observation of the whole. As before stated, he observed the phenomena exhibited by the various organs, both separately and in connection; traced them with elaborate circumspection, and concluded by justifying what Abernethy said when he observed, "Hunter proved that the whole body sympathized with all its parts."

Now many of the facts which Mr. Hunter remarked in the relations established between different parts of

the body were, in the strictest sense, axiomatic—that is, they were exemplifications of laws to which they were the necessary steps. Take one, for example—that the part sympathetically affected by an impression previously made on another part appeared to be frequently *more affected* than the part with which it had appeared to sympathize. This we now know to be no exception, but rather the law, because the exceptions, as we contend, are explicable;* but that was not then perceived. Abernethy, however, made use of this so far as to impress the fact that organs might be seriously disordered without any symptoms apparently referable to them.

Now Abernethy might have continued to labor as Hunter did in collecting facts as the materials for axioms, or as elements for future and more extensive generalization; or he might have at once taken Mr. Hunter's views, so far as he had gone, and, working on them with his remarkable aptitude for perceiving the more salient and practical relations of facts, have applied them at once to practical purposes, gleaning more facts as his extremely acute observation might enable him to do on the way. He pursued, perhaps, neither course exclusively, but the latter appeared to be the one he chiefly adopted; and from the more immediate fruition it affords, no doubt it was best adapted to the exigencies of a practical profession.

John Hunter was a man of indefatigable industry, and exceedingly *circumspect* in his observance of facts. Abernethy was fagging too, but more impulsive and not so dogged; mere facts were mere bores to him; he panted for *practical* relations, and was most wonder-

* *See* "Medicine and Surgery one Inductive Science." 1838.

fully quick in perceiving them. His vision was as penetrative as Hunter's had been circumspect and cautious. Hunter would have sifted all the useful things out of any heap, however heterogeneous; Abernethy would have looked through it, at once found the one jewel that it concealed, and left the rest for the next comer. They were both most perfectly honest and truthful, both careless of money, both enthusiasts in science—that is, both ardent in the pursuit of truth, with that kind of feeling which does not stop to examine the utilitarian relations of these pursuits, but which, carried on by a continually increasing impulse, takes the good for granted, and is impelled by the love of truth for its own sake.

But, interesting as it is to observe those requisitions which, as indispensable, are common to the successful investigators of science, it is yet more so to see the distinctive character of John Hunter and John Abernethy. The former, with many ideas to tell, and most of them new, had a difficulty in expressing himself. With more need than any man before him for additional facilities in this way, he had a restricted vocabulary: again, in making use of it, his style was seldom easy, often obscure; so that things which, when thoroughly understood, had no feature more striking than their simplicity, were often made to appear difficult, and by many readers, no doubt, had often been left unexamined.

Abernethy, on the contrary, had a happy facility of expressing himself, and a power rarely equaled of singling out the difficult parts of a subject, and simplifying them down to the level of ordinary capacities. Hunter, though not without imagination, or humor

even, had these qualities held in abeyance by the unceasing concentration of his intellectual faculty. As Abernethy used to say, "John Hunter was always thinking." Abernethy, on the contrary, had an active imagination; it always accompanied his intellect like a young, joyous attendant, constantly lighting up the more sombre propositions of her grave companion with variety of illustration. The most difficult proposition, directly Abernethy began to fashion it, had all its rough points taken off, and its essential features brought out clear and orderly to the plainest intellect. John Hunter's manner of laying down facts the most important to the formation of a medical science (take place when it may), was not able to keep people awake. Abernethy's treatment of the most dry and unimportant kept the class unceasingly interested. The obscurity of language in Hunter was happily replaced, not only by an unusual ease, but by a *curiosa felicitas* in Abernethy. In sustained composition, Hunter, generally difficult, often obscure; Abernethy, if not faultless, always easy and unaffected. If his style failed sometimes in earnestness and vigor, it was always sincere; and though not deficient in elegance, yet, if it asserted no special claim to that excellence, it was always pleasing and perspicuous.

Nothing could be further from the earnest and thinking John Hunter than any thing dramatic; Abernethy had that happy variety of countenance and manner that can be conveyed by no other term. Hunter, without being slow, was cautious, circumspect; Abernethy, without being hasty, was rapid, penetrative, and impulsive. Never were two minds so admirably fitted for the heavy-armed pioneering in science, and the com-

paratively light-trooped intellect, which was calculated to render the first clearing easily convertible to those practical necessities with which the science had to deal. Accordingly, we find that Abernethy very soon extended Mr. Hunter's views, and applied them so powerfully as at least to create the dawnings of a science. He showed that all processes in the economy, and of course, therefore, those of disease, are essentially nervous in their origin—that is to say, the nerves being the *instruments* through which our relations are established with surrounding nature (however much we may, in common language, speak of this or that feeling, this or that *organ*, or this or that part of the body), all impressions must still be made on the sensitive or nervous system of that part, and this, of course, whether they imply consciousness, or be altogether independent of it; that disturbed nervous action was, as the case might be, either the forerunner or the proximate cause of the disease; and that, therefore, the relief of diseased or disordered actions, however attempted, consisted ultimately and essentially in the restoration of healthy nervous power, or adaptation.

This, then, is the first proposition. The next thing, obviously, in the prevention or cure of disease, therefore, is the tranquilizing nervous disorders.

Now here there are many things to be regarded; for man is a moral as well as a physical being, and the circumstances by which he is surrounded, even the air he breathes, the moral and physical impressions to which he is subjected, are very often not under his own control, much less of his medical attendant. On the other hand, the food is in civilized communities very much under the influence of his volition; and there

are many circumstances which, instead of impeding those adaptations which disorder requires, render them particularly easy, it frequently happening that those things which are really best are the most easily procured. This is important, because the next proposition is, *that the nervous system is very easily and constantly disturbed by disorder of one or other, or the whole of the digestive organs*, and that therefore the tranquilizing of disturbance in them is of the highest consequence in the treatment of disease; *few* propositions in *any* science are more susceptible of proof than the foregoing. But if this be so, we must now recollect the full force of what we have observed with regard to relation—that is, we must not restrict our notion of it to the general loose assent that there is *a* relation in all parts of the body, and rest on the simple admission, for example, that animals are formed in adaptation to their habits; but we must sustain the Cuvier-like impression of the fact, the Owen-like application of it to the phenomena; recollect that *preconceived* ideas of magnitude or minuteness can do nothing but obscure and mislead; and that the relations established in the body are constant and universal, however they may at first—as in the case we have quoted—excite the surprise or the derision of the less informed and less reflecting. We must take their immensely potential power as existing *as certainly in the most trifling headache as in the most malignant fever*, in the smallest scratch *as in the most complicated compound fracture*. We have plenty of facts now to prove this; but the first plain clear enunciation of it all, the successful demonstration of it at the bedside, and the consequent diminution of an enormous amount of human suffer-

ing, is the great debt we owe to Abernethy. Mankind in general admitted that diet was of consequence. Nobody doubted its force as an accessory in treatment. Lactantius said, "Sis prudens ad victum sine quo cetera remedia frustra adhibentur;" but no one had recognized the treatment of the Digestive Organs as the essential part of the treatment of *surgical* diseases, nor founded it on the same comprehensive view of its relations as addressed to organs which executed the nutritive functions of the body on the one hand, and were the *most potential disturbers or tranquilizers of the nervous system on the other*, and thus forever linked them in their practical relations with the fact that the essential character of disease, the *fons et origo*, is disturbed nervous power. But as all disease is merely the result of two conditions, namely, the injurious influence acting, and the body acted on, it matters not whether the injurious influence be sudden, violent, slow, moderate, chemical, mechanical, or what not; so the foregoing positions affect the whole practice of medicine, and must not be held as affecting any one part of it, but as influencing equally both medicine and surgery.

We do trust that these few propositions will induce some to think; for, as Abernethy used to say, lectures will never make surgeons; and we feel equally confident that no books, no individual efforts, however costly or sincere, will really benefit or inform any portion of the public or the profession, except such of them as may be induced to *think for* themselves. They have only to recollect that, in carrying out such principles, they must not measure their influence by their previously conceived notions; they must encourage labor

when they see the profession willing, and not thwart them by showing that it will be labor in vain. There will soon be science if it is encouraged,

"Sint Mæcenates, non deerunt Flacci."

If they are disposed to think investigation too minute to be practical, or precision too unpleasant to be necessary, let them remember the story of Professor Owen's beautiful application of minute relation, and that the distinction between a huge common quadruped and an unknown wingless bird could alone be discovered by particulars far more minute than they will be called on once in a hundred times to observe or to follow. The obligation we have already noticed has in some sense revolutionized the practice of medicine and surgery, and is, no doubt, the capital debt we owe to Abernethy, but there are many others. His application and adjustment of the operation of the trephine was a beautiful and discriminating achievement, and would alone have been sufficient to have raised an ordinary reputation.

His first extension of John Hunter's operation for aneurism shows how ready he was—when he could do so with advantage—to enlarge the application of that branch of our duties which he least valued, namely, operative surgery.

His proposal to add to the treatment of the diseases of joints the apparatus of splints for insuring absolute quiescence of the affected surfaces, has saved a most incalculable number of limbs from amputation. It here becomes necessary to repeat a remark we have made in a former work. Sir B. Brodie recommends this plan only in the third edition, I think, of his book on the joints, not appearing to have been aware that

Abernethy taught it for nearly thirty years previously, about ten years of which we ourselves had repeatedly tested its great value, and taught it, but contemporaneously from Abernethy, in our own lectures. Indeed, so important an element is it in the treatment of diseases of the joints, that we have never seen it fail, when fairly applied and accompanied by a reasonable attention to the general health, except in the following cases: first, when the patient has been nearly worn out by disease before subjected to treatment; and, secondly, where the complaint has been proved to be accompanied by internal organic disease.

We have always thought that one of the greatest boons to mankind was Abernethy's lesson on fracture of the neck of the thigh bone within the capsule of the joint. For thirty years Sir Astley Cooper taught, and boasted that he had taught, that this fracture could not unite by bone; Sir Astley—reasoning on the anatomy of the part *only*, and conceiving that the neck, in its somewhat isolated position, would be imperfectly nourished, and seeing that, in point of fact, this fracture *did generally* unite by ligament only—unfortunately adopted the foregoing idea as the *cause* of the fact, and concluded that bony union was impracticable. Experiments on animals—at all times extremely fallacious, and in this case singularly imperfect in the analogy they afforded—appeared to confirm his views. Despairing of effecting a proper union, he adopted a treatment which rendered it impossible. Abernethy's beautiful reasoning on the subject led him to an opposite conclusion. It embraced certain views of Hunter's, and some common phenomena in other accidents —here the union by ligament is *coincident* with motion

of the part. He therefore treated all cases with a view to secure bony union, and he and many of his pupils had no doubt but that they had seen examples of it. Still, people got well and were lost sight of, and therefore it was said that the fracture was not *wholly* within the capsule of the joint. At length a specimen was procured from the examination of a dead body, and the question set at rest, we believe, in the minds of every body, that this fracture, though it require especial care to keep parts steady and in apposition, will unite just like other fractures in the way taught (and since proved) by Abernethy. Let those who can calculate the number of surgeons who have been educated by these two gentlemen, and who, for the first few years, almost certainly have followed the practice of their instructors, compute the number of those of the lame who, under Providence, have walked in consequence of the clear-sighted reasoning of Abernethy.

How the French surgeons may have been influenced by Abernethy in this point, I do not know. When I was first in Paris in 1824, they were divided; but I recollect Baron Larrey showing me a case which he regarded as a clear example of this fracture in course of firm consolidation, and he was well aware of the opinion of Abernethy.

The bearing which Abernethy's acuteness of observation of the influence of the state of the digestive organs on so-called specific poisons in producing or maintaining diseases resembling them, opposed as it was to the most powerful conventionalism, is a proof of his clear judgment, and, if we mistake not, will one day prove to have been the first ripple of a most important law in the animal economy, which will shed a light a-

new on specific affections as his other principles have on diseases in general.

His treatment of that severe malady, "lumbar abscess," is, in our view, a most splendid addition to humane and successful surgery, and as regards one of its distinctive characters, he has, as we have shown, received the encomiums of the most distinguished of his contemporaries, including Sir Astley Cooper.

The manner in which he applied that law which prevails in voluntary muscles to the replacement of dislocations, namely, that muscles under the influence of the will can not ordinarily act long and unremittingly, was an amendment as humane as scientific; and while it has removed from surgery a farrier-like roughness in the treatment of dislocations as repulsive as unnecessary, it has adjusted the application of more sustained force, when it becomes necessary, on principles at once humane, safe, and effectual. In short, whatever part of surgery we consider, we should have something to say of Abernethy—either something new in itself, or improved in application. We find him equally patient and discriminative wherever there is danger; thus there is the same force and originality on the occasional consequences on the simple operation of bleeding in the arm, and the more serious proceeding of perforating the cranium. He is every where acute, penetrating, discriminative, humane, and practical, so that it is difficult which most to admire, his enlarged views in relation to important general principles, or the pervading science and humanity with which he invests their minutest details.

Hunter's method of investigation was highly inductive, and, whenever he adhered to it, the structure he

has left is stable, and fit for further superadditions. Whenever he proceeded on any preconceived notions, or on an induction manifestly imperfect, his conclusions have, as we think, been proved unsound. His definition of disease, as distinct from accidental injury, is one instance which we formerly noticed in our own works, and some of his conclusions in regard to poisons—as mercury, for example—will not hold; but all that Abernethy made use of, either in developing his own views, or maturing their practical applications, were sound, and most careful deductions from obvious and incontrovertible facts. Abernethy took equal care to deduce nothing from them, or from any thing of his own observations, but the most strictly logical inferences—conclusions which were, in truth, little more than the expression of the facts, and therefore irrefragable. He showed that, however dissimilar, nervous disturbance was the essential element of disease, and that the removal of that disturbance, was the essential element of cure; that no mode should be neglected, therefore, which was capable of exerting an influence on the nervous system; but that, whether he looked at the subject as mere matter of fact, or as assisted by the phenomena of health or disease generally, or merely to that which was most within our power, no more potential disturbers of the nervous system were to be found than in disturbances addressed to the digestive organs, and that the tranquilizing of these must always be a leading object in our endeavors to achieve the still greater one of tranquilizing nervous disorder.

The absurd idea that he looked chiefly to the stomach, that he thought of nothing but blue pills or alterative doses of mercury, need scarcely detain us. His

works show, and his lectures still more, that there was no organ in the body which had not been the object of his special attention—in almost all cases in advance of his time, and not exceeded in practical value by any thing now done. We know of nothing more valuable or clear *now* than his paper on the skin—nothing so advanced or important as his observations on the lungs and skin, and the relations of these important organs; and it is unnecessary to repeat what has been already said about the digestive organs. His medical treatment was always very simple, and if its more salient object was to correct disorders of the liver, it was because he knew that the important relations of that organ not only rendered it very frequently the cause of many disorders, but that there could be nothing materially wrong in the animal economy, by which it must not be more or less affected. He carried the same clearness and definiteness of purpose into his prescriptions as that which characterized all his investigations, and, indisposed to employ any means except on some principle, used but few remedies, although he by no means wished to deter others from having recourse to a more extended pharmacopœia. We regret, indeed, the impossibility of doing full justice to Abernethy in any thing less than a running commentary on the publication of his works; but we have said enough, we trust, to show how largely the profession and mankind are indebted to him.

Now, in these days of testimonials, what memorials have we of Abernethy? It is true there is no monument in Westminster Abbey, and only a bust at St. Bartholomew's. His portrait, to be sure, given by his pupils, hangs at St. Bartholomew's, exalted where it

can hardly be distinctly seen, to be replaced by those of Mr. Vincent, and Mr. Lawrence in his Professor's gown! But he has still a

"Monumentum ære perennius"

in the claim he has established to the rarely so truly earned honor of "nihil quod non tetigit, et nihil quod tetigit, quod non ornavit;" in the grateful hearts of many a pupil who had no other obligation to him than his beautiful lessons; and in an improved medical Surgery, which, though it may have in *London* rather retrograded than otherwise since his time, is felt more or less in its moral as well as its medical bearings, and in a diminution of suffering and an improved practice throughout the civilized world.

But, if Abernethy's views are so true or so excellent, as we allege they are, they must have *some* relation to any thing that is good in every kind of medical or surgical treatment, and this equally whatever the system (so called), whence it may arise, however much of truth or error it may contain, or however perplexingly their qualities may be blended together. These are points on which we have yet something to say, and as we are anxious that the public and the profession should favor us with their attention to the very few remarks we have the space to offer. we must have a new chapter.

CHAPTER XXXI.

"Que res neque consilium neque modum habet ullum
Eam consilio regere non potes."—TER.

POSITION, PROGRESS, AND PROSPECTS OF THE PROFESSION—OF HYDROPATHY—OF HOMEOPATHY—OF QUACKERY—OF PUBLIC IGNORANCE.

A WRITER* of no ordinary judgment and discrimination has observed, that "it often happens in human affairs that the evil and the remedy grow up at the same time; the remedy, unnoticed and at a distance, scarcely visible, perhaps, above the earth; while the evil may shoot rapidly into strength, and alone catch the eye of the observer by the immensity of its shadow; and yet," he adds, "a future age may be able to mark how the one declined and the other advanced, and how returning spring seemed no longer to renew the honors of the one, while it summoned into maturity and progress the perfection of the other."

We know not how it may appear to the reader, but we can not help thinking that there is a far-seeing perception of a very leading character of human affairs in the foregoing sentence. There is no evil but which is charged with a certain degree of good. At first it is, indeed, "scarcely visible"—nay, it escapes alike the most penetrative perception and faithful confidence in the surpassing working-to-good of all things around us; but, so soon as the evil begins to tell, so soon as the full flood of mischief becomes obtrusive or remarkable, the small ripple of some corrective principle becomes apparent.

* Professor Smythe, Lectures on Modern History, vol. i., p. 74.

It would be easy to illustrate the foregoing proposition from general history, from the progress of nations, or even from the contracted area of private families. But we will confine ourselves to an illustration more directly in relation to our immediate object, namely, the present condition and prospects of medical science.

There are, no doubt, many persons who view the present state of medical science as little better than the triumphant domination of something little superior to a conjectural art, and which has long obscured and is still very imperfectly representing a beautiful science, and that the perception of the true relations which it bears to such science has been vailed by the impression that it involved some mystery from which the general public, who were most interested in its development, were necessarily excluded.

There have been at all times individuals perhaps sufficiently astute to observe the real truth of the matter; but still they were rare exceptions, and did not prevent Mystery from conferring on a very considerable section of people the social advantage of a gainful profession; that property being enhanced, of course, in that it ministered to an ignorant public. But even in an early stage correctives to an equivocally-earned advantage began to appear, for a thing which had no character but its indefiniteness, and its apparent facility of acquisition, obtained many followers; the supply, such as it was, was thus so close in relation to the demand, that what in theory seemed necessarily very gainful, on the whole proved any thing but a lucrative profession. As contrasted with any other, or a variety of commercial pursuits, medical men were neither so affluent, nor always so secure of their position. Re-

tiring competency in well-conducted callings has, in a rich country, been rather the rule. We fear, in the medical profession, it is the exception, which we are apprehensive (in its bereaved dependents) contributes more applicants for eleemosynary relief than any other profession.

This surely is not a state of things which can be well made worse. Public ignorance, the real mischief, has, in the mean time, been left uninformed, and every attempt to enlighten it has too often been branded with some form or other of corrupt motive. Public positions have been conferred without competition, the surest source of fitness or excellence; and the public have been further doubly barred out, so that the chance of eliciting men of spirit and enthusiasm has been diminished by the first positions having been often rendered contingent on the payment of money in the right quarter.

But all this time corrections were slowly springing up. Hundreds were beginning, under the light of a more liberal diffusion of general knowledge, to feel that the so-called science of medicine and surgery was very different from science usually so termed; and while other sciences were affording that which was definite and positive, the juxtaposition only seemed to bring out in higher relief the prevailing character of conjecture and uncertainty in medicine.

People began to see that mystery is but mystery, to whatever it is applied, and that one man can see in the dark about as well as another; that where all is obscure, any one may scramble with a chance of success. Accordingly, we observe that a state of things has gradually been rising up, which, if it do not justify the expression of *quot medici tot empirici*, at least leads us

to deplore that, of all callings in life, no one ever had such a legion of parasites as are represented by the hydra-headed quackeries which infest the medical profession. Naturally enough too, Quackery attacked chiefly those disorders in regard to which Mystery avowed its incapacity, or declared to be incurable; and thus, while the regular profession made their own limited knowledge the measure of the powers of nature, the quacks unconsciously proceeded, *de facto*, more philosophically, when they neither avowed nor acknowledged any other limits than those of observation and experience.

Among, no doubt, innumerable failures, and, as we know, a multiplicity of fictions, they would now and then, in acting violently on the various organs, blunder on the last link in the chain—the immediate cause of the disorder, and perhaps effect the removal of a so-called incurable malady. Thus, while the regular profession were making their own knowledge the measure of remedial possibility, and were reposing contentedly on the rule, they were every now and then undermined, or tripped up, by unexplained exceptions.

It is difficult to conceive any state of things, when once observed, more calculated to drive men to the obvious remedy that a definite science would alone afford; nor should it be forgotten that multiform quackeries, with mesmerism to boot, are coincident with a system which allows not one single appointment which the public are accustomed to regard as authority to be open to scientific competition. Of late, too, many persons have begun to examine for themselves questions which they had been wont to leave entirely to their medical adviser.

The sanitary movement has shown that more people die every year from avoidable causes than would satisfy the yawning gulf of a severe epidemic or the most destructive battle. In a crowded community, many events are daily impressing on the heads of families, besides the expedience of avoiding unnecessary expenses, that long illnesses are long evils; that their dearest connections are sometimes prematurely broken; and that parts are not unfrequently found diseased which were not suspected to be so during life. The thought will sometimes occur whether this may have been always consequent on the difficulty of the subject, or whether it may not sometimes have been the result of too hasty or too restricted an inquiry; that not only (as the Spanish tutor told his royal pupil of kings) do patients die "sometimes," but very frequently.

These and other circumstances have induced many of the public to inquire into the reason of their faith in us, and to ask how it happens that, while all other sciences are popularized and progressing, there should be any thing so recondite in the laws governing our own bodies as to be accessible only to comparatively few, especially as they have begun to perceive that their interest in knowing such laws is of the greatest possible importance.

Among various attempts to better this condition of things, the imagination of men has been very active. Too proud to obey the guidance, or too impatient to await the fruition of those cautious rules which the intellect has imposed on the one hand, and so signally rewarded (whenever observed) on the other, Imagination set forth on airy wing, and brought home curiosities which she called science, and observations which,

because they contained some of that truth of which even fancies are seldom entirely deprived, blinded her to the perception of a much larger proportion of error.

Two of these curiosities have made considerable noise, have been not a little damaging to the pecuniary interests of the medical profession, and have been proportionately species of El Dorados to the followers of them. We allude to the so-called Homeopathy and Hydropathy.

Homeopathy proceeds on an axiom that diseases are cured by remedies which excite an action similar to that of the disease itself: "*Similia similibus curantur.*"

Our objection to this dogma is two-fold, and in the few hints we are giving, we wish them not to be confounded.

1st. It is *not* proven.

2d. It is *not* true.

Take the so-called fever. The immediate and most frequent causes of fever are bad air, unwholesome food, mental inquietude, derangement of the digestive organs, severe injuries. Now it is notorious that very important agents in the cure of all fevers are good air, carefully exact diet, or temporary abstinence, and correction of disordered functions, with utmost repose of mind and body, and so forth.

So of small-pox, one of the most instructive of all diseases. All the things favorable to small-pox are entirely opposite to those which conduct the patient safely through this alarming disease; and so clearly is this the case, that, if known beforehand, its virulence can be indefinitely moderated so as to become a comparatively innoxious malady.

We might go on multiplying these illustrations to almost any extent. What, then, is the meaning of the *similia similibus curantur?* This we will endeavor, so far as there is any truth in it, to explain. The truth is, that Nature has but one mode, principle, or law in dealing with injurious influences on the body. Before we offer the few hints we propose to do on these subjects (and we can here do no more), we entirely repudiate that sort of abusive tone which is too generally adopted. That never can do any body any good. We believe both systems to be dangerous fallacies, but, like all other things, not allowed to be entirely uncharged with good. We shall state, as popularly as possible, in what respect we deem them to be dangerous fallacies, and in what we deem them to be capable of effecting some good, because it is our object to show, in respect to both, that the good they do is because they accidentally, as it were, chip off a small corner of the principles of Abernethy.

Homeopathy is one of those hypotheses which show the power that a minute portion of truth has to give currency to a large quantity of error, and how much more powerful in the uninformed are appeals to the imagination than to the intellect. The times are favorable to homeopathy. To some persons who had accustomed themselves to associate medical attendance with short visits, long bills, a gentleman in black all smiles, and a numerous array of red bottles, homeopathy must have addressed itself very acceptably. It could not but be welcome to hear that all the above not very pleasing impressions could be at once dismissed by simply swallowing the decillionth part of a grain of some efficacious drug. Then there was the prepossession so common

in favor of mystery. How wonderful! so small a quantity! What a powerful medicine it must be! It was as good as the fortune-telling of the gipsies. There! take that, and then you will see what will happen next! Then, to get released from red bottles tied over with blue or red paper, which, if they were not infinitesimal in dose, had appeared infinite in number, to say nothing of the wholesome repulsion of the palate!

Besides, after the bottles came the bill, having, no doubt, the abominable character of all bills, which, by some law analogous to gravitation, appear to enlarge in a terrifically accelerating ratio in proportion to their longevity, so that they fall at last with an unexpected and a very unwelcome gravity. Then homeopathy did not restrict itself to infinitesimal doses of medicine, but recommended people to live plainly, to relinquish strong drinks, and, in short, to adopt what, at least, seemed an approximation to a simple mode of living. To be serious—What, then, are the objections to homeopathy?

Is there no truth, then, in the dogma, "*Similia similibus curantur?*" We will explain. The laws governing the human body have an established mode of dealing with all injurious influences, which is identical in principle, but infinitely varied and obscured in its manifestations, in consequence of multifarious interferences; in that respect, just like the laws of light or gravitation. As we have no opportunity of going into the subject at length, we will give a hint or two which will enable the observing, with a moderate degree of painstaking, to see the fallacy. You can *demonstrate* no fallacy in a mathematical process even without some work, neither can you do so in any science;

so let that absence of complete demonstration be no bar to the investigation of the hints we give. All medicines are more or less poisons; that is, they have no nutritive properties, or these are so overbalanced by those which are injurious, that the economy immediately institutes endeavors for their expulsion, or for the relief of the disturbance they excite. All organs have a special function of their own, but all can, on occasions, execute those of some other organ. So, in carrying out injurious influences, organs have peculiar relations to different forms of matter—that is, ordinarily. Thus the stomach is impatient of ipecacuanha, and substances which we call emetics; the liver of mercury, alcohol, fat and saccharine matters, and so forth. In the same way, we might cite examples of other organs which ordinarily deal with particular natural substances. But then, by the compensating power they have, they *can* deal with any substance on special occasions.

Now the natural mode in which all organs deal with injurious substances, or substances which tend to disturb them, is by pouring forth their respective secretions; but if, when stimulated, they have not the power to do that, then they evince, as the case may be, disorder or disease. Thus, for example: If we desire to influence the secretion from the liver, mercury is one of *the many things* which will do it; but if mercury cease to do this, it will produce disease; and, if carried to a certain extent, of no organ more certainly than the liver. Thus, again, alcohol in certain forms is a very useful medicine for the liver, yet nothing in continuance more notoriously produces disease of that organ. So that it happens that all things which in one form disorder an organ, may in another form, in great-

er or more continued doses, tend to correct that disorder by inducing there a greater stimulation of its secretions.

This is the old dogma, long before homeopathy was heard of, of one poison driving out another. This is the way in which fat bacon in one case may be a temporary or a good stimulant of a liver, which it equally disorders in another; for as the liver is a decarbonizing agent as well as the lungs, so articles rich in carbon are all stimulants of that organ, useful exceptionally, invariably disordering if habitual or excessive.

But if this be so, what becomes of the "*curantur?*" To that, we say it is far from proven. Medicine hardly ever, perhaps never, strictly speaking, cures, but it often materially assists in putting people in a *curable* condition proper for the agencies of more natural influences. True. Well, then, may not homeopathy be good here? We doubt it, and for this reason. Medicine, to do good, should *act* on the organ to which it is directed; it is itself essentially a poison, and does well to relieve organs by which *it is expelled;* but if you give medicine in very small doses, or so as to institute an artificial condition of those sentinels, the nerves, you may accumulate a fearful amount of injurious influence in the system before you are at all aware of it; and it is the more necessary to be aware of this in respect to homeopathy, because the medicines which many of these gentlemen employ are active poisons, as belladonna, aconite, and so on. We have seen disturbed states of nerves, bordering on paralysis, which were completely unintelligible until we found that the patient had been taking small doses of narcotic poisons. We have no desire whatever to forestall the

cool decisions of experience, but we earnestly request the attention of the homeopathist to the foregoing remarks; and if he thinks there is any thing in them, to peruse the arguments on which we found the law of which we have formerly spoken.*

We must in candor admit that, as far as the inquiry into all the facts of the case go, as laid down by Hahnemann, we think the profession may take a hint with advantage. We have long pleaded for more accuracy in this respect, but we fear, as yet, pleaded in vain. Homeopathic influences may be perhaps more successful. Practically, the good that results from homeopathy, as it appears to us, may be thus stated: that if people will leave off drinking alcohol, live plainly, and take very little medicine, they will find that many disorders will be relieved by this treatment alone.

For the rest, we fear that the so-called small doses are either inert, or, if taken so as to produce effect, incur the risk of accumulating in the system influences injurious to the economy, which the history of mercury, arsenic, and other poisons show to be nothing uncommon; and, further, that this tends to keep out of sight the real uses and the measured influences of medicine, which in the ordinary practice, their usual effects serve, as the case may be, to suggest or demonstrate.

Practically, therefore, the good effects of homeopathy resolve themselves, so far as they are good, into a more or less careful diet, and small doses of medicine; which, as we have said, is a chipping off of the views of Abernethy.

* *See* "Medicine and Surgery one Inductive Science (the so-called Law of Inflammation)."

We regret we have no space to consider the relation of homeopathy to serious and acute diseases; we can therefore only say that the facts which have come before us have left no doubts on our minds of its being alike dangerous and inapplicable.

One morning, a nobleman asked his surgeon (who was representing to him the uselessness of consulting a medical man without obeying his injunctions) what he thought would be the effect of his going into a hydropathic establishment. "That you would get perfectly well," was the reply, "for there your lordship would get plain diet and good air, and, as I am informed, good hours—in short, the very things I recommend to you, but which you will not adopt with any regularity."

Hydropathy sets out, indeed, with water as its staple, and the skin as the organ to which it chiefly addresses itself; but we take it that the hydropathic physician, if he sees nothing in philosophical medicine, discovers sufficient in human nature to prevent him from trading on so slender a capital. There was, no doubt, in the imperfection of medical science a fine opening left for a scheme which proposed to rest its merits chiefly on an organ so much neglected.

There has never been any thing bordering on a proper attention to the skin until recently, and even now any care commensurate with the importance of the organ is the exception rather than the rule. Thirty years ago, Abernethy, when asked by a gentleman as to the chance of a bathing establishment answering, said that the profession would not be persuaded to attend to the subject, and that, in respect to the capital

which the gentleman proposed to invest in it, he had better keep the money in his pocket. This was said in relation to the general importance of attention to the skin, and also in connection with making it the portal for the introduction of medical agents generally. Abernethy was, in fact, the person who first introduced Lalonette's method of affecting the system by mercury applied in vapor.

Hydropathy deals with a very powerful agent, and applies it to a very powerful and important organ, the skin; and it employs in combination the energetic influences, temperature and moisture, so that we may be assured there will be very little that is equivocal or infinitesimal in *its* results—that in almost every case it must do good or harm.

But it does not limit itself to these agencies. It has "establishments"—that is to say, pleasant rural retreats, tastefully laid out gardens, plain diet, often, no doubt, agreeable society, rational amusements, and, as we understand, good hours, and abstinence from alcohol. These are, indeed, powerful agencies for a vast variety of diseases; so that, if hydropathy be not very scientific, it is certainly a clever scheme; and as there are very many people who require nothing but good air, plain living, rest from their anxious occupations, and agreeable society, it is very possible that many hydropathic patients get well by just doing that which they could not be induced to do before.

But here comes the objection: the skin is, in the first place, only one of the organs of the body, and it is in very different condition in different people, and in the same people at different periods.

It has, like other organs, its mode of dealing with

powerful or with injurious influences; and *if it deal with them* in the full force of the natural law, it affects (and in disease almost uniformly) favorably the internal organs; but, on the other hand, *if there be interfering influences opposed to the healthy* exhibition of the natural law, so that the skin do not deal with the cold, or other agencies to which it is subjected, *as it naturally should do*, then the cold, moisture, or other agent increases the determination of blood to the internal organs, and does mischief. This it may do in one of two ways; we have seen both. 1st. The blood driven from the surface increases *pro tanto* the quantity in the internal organs; it must go somewhere; it can go nowhere else. Or, if cold and moisture produce not this effect, nor be attended with a reactive determination to the surface, there may be an *imperfect* reaction, that is, short of the surface of the body. In the first case you dangerously increase the disorder of any materially affected organ; in the latter you incur the risk of diseased depositions, as, for example, Tumors. We here speak from our own experience, having seen tumors of the most malignant and cancerous character developed under circumstances in which it appeared to us impossible to ascribe the immediate cause to any thing else but violently depressing influences of hydropathic treatment of the skin with a co-existing disordered condition of internal organs.

In one very frightful case indeed, the patient was told, when he first stated his alarm, that the tumor was a "crisis" or reaction, as sure enough it was, but it was the reaction of a cancerous disease which destroyed the patient. But, as we have said, hydropathy has many features which obviously minister very agreeably and

advantageously to various conditions of indisposition, while they favor the observance of something like a rational diet; a point of immense consequence, and too much neglected in regular practice. Here again we speak from actual observation. One man lets his patient eat what he pleases. An eminent physician replied to a patient who, as he was leaving the room, asked what he should do about his diet, "Oh, I leave that to yourself;" showing, as we think, a better knowledge of human nature than of his profession. Another restricts his patient to "any thing light." Others see no harm in patients eating three or four things at dinner, "provided they are wholesome," thus rendering the solution of many a question in serious cases three or four times of course as difficult. Now we do not require the elaborate apparatus of a hydropathic establishment to cure disorders after such loose practice as this; and we do protest against the assertion that any such treatment can be called, as we have sometimes heard it, "Abernethy's plan, attention to diet," and so forth.

So far from any thing *less* than the beautifully simple views held out by Abernethy being necessary, we trust that we have some of us arrived, as we ought to do, at several improvements. But people will confound a *plain* diet with *a starving* diet, and, hating restrictions altogether, naturally prefer a physician who is good-natured and assenting; still, this assentation is being visited, we think, with a justly retributive reaction.

Hydropathy, in many points, no doubt, tends to excite attention to the real desiderata; but it is nevertheless imperfect and dangerous, because evidently

charged with a capital error. It entirely fails in that comprehensive view of the relations which exists in all animals between the various organs, and on a sustained recollection and examination of which rests the safe treatment of any one of them. It is, therefore, unsafe and unscientific. Again, it is illogical, because it proceeds, as regards the skin, on the supposed premise that it will obtain a natural reaction, a thing, in a very large number of cases, and those of the most serious kind, seldom to be calculated on.

It is quite clear, therefore, that, so far as hydropathy does good, it effects it by the institution of diet, abstinence from alcohol, country air, exercise, agreeable society, and *we* will suppose, in some cases, appropriate care of the surface, all of which are in a general sense beneficial to the nervous system and the digestive organs, the points insisted on by Abernethy.

So long as the public are not better informed, and until medicine is more strictly cultivated as a science, they will necessarily be governed by their first impressions on their feelings, and so long as this is the case, fallacies can never be exposed except by the severe lessons of experience. The hope to reason successfully with those whose feelings induce them to adopt that which they too often decline to examine, is madness, and is just what Terence says of some other feelings:

"Nihilo plus agas
Quam sides operam ut cum ratione insanias."

But although, therefore, we are neither hydropathists nor homeopathists, we begin to see in the very success of these things some good; that the "great shadow of the evil" of a conjectural science will one day be re-

placed by another example of the triumph of an inductive philosophy; that the retiring confidence of the public will induce in us a more earnest and successful effort to give them a more definite science, and that, as Professor Smythe says, the "returning spring will no longer renew the honors of the one," while it will gradually evolve the development of the other.

The efforts, too, which the profession are already making, though, as we humbly consider, not in the right direction, will certainly arrive in time at a path that is more auspicious. When we see the hydropathist looking so much to the skin, homeopathy leading people to think of *quantities* of medicine; when, in the regular profession, we see one man restricting his views to one organ, another to another; a third thinking that *every thing* can only be learned by examination of the dead, thus confounding morbid anatomy with pathology; a fourth *restricting* his labors to the microscope, as if to discover laws by enlarging the objects rather than his intellectual vision, still we can not but perceive that these isolated labors, if once concentrated by unity of purpose and combined action, would be shadowing forth at least the outline of a really inductive inquiry.

Hydropathy and homeopathy are making powerful uses, too, of the *argumenta ad crumenam*. Their professors are amassing very large sums of money, and that is an influence which will in time probably generate exertions in favor of a more definite science. Still, medicine and surgery can not be formed into a science as long as men consider it impossible, nor can there be any material advance if they will persist in measuring the remedial powers of nature by their own power of educ-

ing them—a presumption obviously infinitely greater than the veriest quack ever dared to indulge in. Well did Lord Bacon see the real difficulties of establishing the dominion of an inductive philosophy when he labored so much in the first place to destroy the influence of preconceived opinions—idols, as he justly called them.

You can not, of course, write truth on a page already filled with conjecture. Nevertheless, mankind seem gradually exhausting the resources of Error: many of her paths have been trodden, and their misleading lures discovered, and by-and-by that of Truth will be well-nigh the only one left untried. In the mean time, we fear the science is nearly good enough for the age. The difficulty of advance is founded deeply in the principles of human nature. People know there are physical laws as well as moral laws, and they may rely on it that disobedience and disease, sin and death, are as indissolubly bound up with infractions of the one as well as the other.

It is true there are many who have (however unconsciously) discovered that the pleasures procured by the abuses of our appetites are a cheat, and that permanent good is only attained by obeying those laws which were clearly made for our happiness.

Error has indeed long darkened the horizon of medical science; and albeit there have been lightnings like coruscations of genius from time to time, still they have passed away, and left the atmosphere as dark as before. At length, however, there has arisen, we hope, a small but steady light, which is gradually diffusing itself through the mists of Error, and which, when it shall have gained a very little more power, it will succeed in dispelling.

Then, we trust, Medicine will be seen in the graceful form in which she exists in nature—as a Science which will enable us to administer the physical laws in harmony with that moral code over which her elder sister presides; but, whenever this shall happen, Surgery will recognize as the earliest gleams of light shed on her paths of inquiry, in aid of the progress of science and the welfare of mankind, the honored contributions of John Hunter and John Abernethy.

CHAPTER XXXII.

"Eheu fugaces Postume Postuma
Labuntur anni; nec pietas moram
Rugis et instanti senectæ
Adferet, indomitique mortæ."—Hor.

How swiftly glide our flying years,
Alas! nor piety nor tears
Can stop the fleeting day,
Deep furrow'd wrinkles, frosting age,
And Death's unconquerable rage,
Are strangers to delay.—Francis.

We have already observed that Abernethy had begun to feel the wear and tear of an anxious and active life, when, after a tenure of office for twenty-eight years as assistant, he was appointed surgeon to St. Bartholomew's Hospital. About this time he took a house at Enfield, where he occasionally went at leisure hours on Saturday, and as the Spring Course of Lectures came near to a conclusion and in the summer, pretty constantly on other afternoons. At this season he used to doff the black knee-breeches, silk stockings, and shoes, sometimes with, sometimes without short

gaiters, and refresh one's rural recollections with drab kerseymeres and top-boots, in which costume he would at that season not unfrequently come down to lecture. He was fond of riding, and had a favorite mare he called Jenny; and many a time have we seen her jogging along on a fine summer afternoon, and her master looking as happy as any school-boy that he was going home and escaping from the botherations of Bedford Row and the smoke of London.

Some years before this he met with what might have been a serious accident: in stooping forward, his horse threw up his head and struck him a violent blow on the forehead and nose—as Mr. Abernethy at first thought, breaking the bones of the latter. He rode up a gateway, and, having dismounted, was endeavoring to adjust the bruise and staunch the blood, when some people ran to assist him, and, as he said, very kindly asked him if they should fetch him a doctor; but, said Abernethy, "I told them I thought they had better fetch me a hackney-coach," which they accordingly did. He was conveyed home, and in a short time recovered from the accident.

His taking the house at Enfield was probably a prudent measure. He seemed to enjoy it very much, and especially in getting a quiet friend or two down on the Saturday to stay over till the Monday, among whom a very favorite visitor was our respected friend, Mr. Clift, of whom we have already spoken. Abernethy had always, however, had what he used aptly enough to term a fidgety nervous system. From early life he had been annoyed by a particularly irritable heart. The first time he ever suffered materially from it was while he was yet a young man. He had been exceed-

ingly depressed by the death of a patient in whose case he had been much interested, and his heart became alarmingly violent and disordered in its action. He could not sleep at night, and sometimes in the day it would beat so violently as to shake his waistcoat. He was afterward subject to fugitive returns of this complaint, and few, unless by experience, know how distressing such attacks are.

We suspect that surgeons are more frequently thus affected than is generally supposed. A cold, half-brutal indifference is one thing, but a calm and humane self-possession in many of our duties is another, and, as we saw in Cheselden, not obtained always without some cost; the effects of this sometimes appear only when the causes have ceased to recur, or are forgotten. A lively sensibility to impressions was natural to Abernethy, but this susceptibility had been increased by the well-known influence of the air and excitement of crowded cities on people who are engaged in much mental exertion. His physical organization, easily susceptible of disturbance, did not always shake it off again very readily. At one time he suffered an unusually long time from the consequences of a wound in dissection.

These not uncommon accidents occur perhaps a hundred or a thousand times without being followed by any material results; but if they happen in disordered conditions of health, either of mind or body, they are sometimes serious affairs, and usually of a more or less active kind—that is, soon terminating in death or recovery. Not so in Abernethy. The complaint went through various phases, so that it was nearly three years, he used to tell us, before he fairly and finally

got rid of the effects of it. One of the most difficult things for a man who was so actively engaged in a profession in London, as Abernethy was, is to get the requisite quantity of exercise, while the great mental exertion which characterizes a London, as distinguished from almost any other kind of life, requires that the digestive organs should be "up to" pretty good living.

Then, again, Abernethy lived in the days of port wine, when every man had something to say of the sample his hospitality produced of this popular beverage. Abernethy, who was never intemperate, was very hospitable, and always selected the finest port wine he could get, which, as being generally full and powerful, was for him perhaps the least fitted.

Mr. Lloyd, of Fleet Street, who was one of the old-fashioned family wine-merchants, and one of the best men of his day, was the purveyor of his Falernian, and never was there a more correct application of nomenclature than that which gave to him the title, by which he was best known, of "Honest John Lloyd." He was one of the kindest-hearted men I ever knew; he had a great regard for Mr. Abernethy; and was treated himself by almost every body as an intimate friend. One day I went there just as Abernethy had left. "Well," says Mr. Lloyd, "what a funny man your master is!" "Who?" said I. "Why, Mr. Abernethy. He has just been here, and paid me for a pipe of wine; and threw down a handful of notes, and pieces of papers with fees. I wanted him to stop to see if they were right; 'for,' said I, 'some of these fees may be more than you think, perhaps.' 'Never mind,' said he, 'I can't stop; you have them as I took them,' and hastily went his way."

Sedentary habits, however, as people now begin to find, do not harmonize well with great mental exertion, or constant and anxious occupation. In 1817, Abernethy felt his combined duties as surgeon to the hospital, as lecturer there, and also at the College, becoming too onerous, and therefore in that year he resigned the Professorship. On this occasion, the Council sent him the following unanimous expression of their appreciation of his services.

At the Court of Assistants of the Royal College of Surgeons, in London, holden at the College on the 15th day of July, 1817, Resolved unanimously,

"That the thanks of this Court be presented to John Abernethy, Esq., for the series of Lectures delivered by him in the theatre of this College in the years 1814, 1815, 1816, 1817, with distinguished energy and perspicuity, by which he has elucidated the physiological and pathological opinions of John Hunter, explained his design in the formation of the Hunterian Collection, illustrated the principles of surgery, and thereby has highly conduced to the improvement of anatomical and physiological knowledge, the art and science of surgery, and to the promotion of the honor of the College."

This seems to have gratified him, as, under all the circumstances, we can readily understand it might do, and he accordingly replied to it as follows:

"TO THE MASTER, GOVERNORS, AND COUNCIL OF THE ROYAL COLLEGE OF SURGEONS.

"SIR AND GENTLEMEN,—To obtain the good opinion of others is a universal object of human actions, and

we often strive to acquire it by circuitous and absurd means; but to obtain the approbation of eminent and judicious characters by pursuing the direct path of professional duty is the most gratifying mode of seeking and receiving this object of general ambition.

"I have ventured to premise these observations to show you, gentlemen, that I do not write inconsiderately, or merely as a matter of form, when I thus return you my warmest thanks for the distinguished honor you have conferred on me by your public approbation of my *endeavors** to discharge the duties of an arduous office, to which I was elected through your kindness and confidence.

"I have the honor to remain, Sir and Gentlemen, your very grateful and obedient servant,

"JOHN ABERNETHY."

We insert in this place a letter which he wrote about this time to Sir William Blizard, because it shows two things which are characteristic: the one, how constant he was in not allowing any considerations to interfere with the lectures; and the other, the endurance of his old attachment to Sir William Blizard. It is an apology for not having been present at the Council.

"DEAR SIR WILLIAM,—I was yesterday desired to see a patient residing seven or eight miles from London. I could not go that day, for it was lecture evening; I can not go to-morrow, for the same reason; consequently I must go this evening. I hope you will consider these circumstances as an apology for my *absence* from the Board.

* Underscored in the original.

"If you cite my example* as one misleading future professors, be so good as to remember that I retired, leaving the task which I had undertaken incomplete, wherefore it became necessary to *explain publicly* to an indulgent audience my *motives* for resigning the professorship.

"I remain, dear Sir William, yours unremittingly,

"JOHN ABERNETHY."

Abernethy had at various periods of his life been subject to an inflammatory sore throat of a very active kind, which would on some days impede so as almost to prevent his swallowing, and then suddenly terminate in abscess, leaving him perfectly well again. He was young when these sorts of attack began, as in his lectures he used to speak of one of them having subsided only the night before he had some lectures to deliver before the Council of the College, when they were accustomed to meet in the Old Bailey.

The disposition, however, to disorder of the digestive organs, and the tendency to the termination in inflammation of the mucous membrane of the throat, as he advanced in life, began to affect other structures, and he became teased and subsequently greatly tortured by rheumatism. This term—which is a kind of general name for various conditions of joints extremely different from each other—is in many cases, as we all know, extremely painful, and is never more excruciating than when parts thus conditioned are affected by spasms. These spasms were a source of much acute suffering to Abernethy. His constant occupations gave him no

* Apparently alluding to the impression it might create that such a course was necessary.

opportunity of relieving himself from work, except there was that accommodation of indisposition to convenient times, which of course seldom happens.

In the earlier parts of his life, Abernethy, when he was out of health, would take the first opportunity which his occupations allowed of going a little way into the country, and there, by diet, and amusing himself by reading and exercise, he would soon get well. But as he advanced in life, he was not so ready to attend to himself as perhaps he ought to have been. Besides, he would sometimes do things which incurred unnecessary risks, which we ourselves would sometimes venture to mention to him.

Living at the time to which we are now alluding in Ely Place, and attending his lectures long after we had commenced practice, we frequently walked down with him to lecture, sometimes in the rain, when we used to think his knee breeches and silk stockings looked most uncomfortable. Besides this, he was very careless about his umbrella; I never recollect him on such occasions calling a coach, and I hardly ever knew him come down to his evening lecture in his carriage. He generally came down to the two o'clock lecture some minutes before the time; and as he complained at that time of cold feet, he would stand opposite one of the flue openings in the Museum. One day I ventured to suggest to him that the transition of temperature to the cold place he occupied in the theatre rendered this hardly prudent, when he said "Ay!" and moved away. Though temperate, without being very particular in his diet, these imprudences were unfortunate, because we saw him every year almost becoming troubled more and more by his painful visitor. The time, however,

was now arriving when he was about to resign the surgeoncy of the hospital.

We have seen that when elected to that appointment he had been no less than twenty-eight years assistant surgeon; he, however, took no pains to indemnify himself for this long and profitless tenure of a subordinate post, but, mindful of what he had himself suffered, immediately on his appointment he did the best he could at once to provide against others being subjected to such an unrequited service. He accordingly, on his election, addressed a letter to the governors of the hospital, of which we regret that we have not a copy. Our friend Mr. Lloyd, a friend and favorite pupil of Abernethy's, had a copy, and had kindly found it and laid it aside for us, but unfortunately again mislaid it, and it can not be found; neither is there a copy of it on the books of the hospital.

The object of the letter was to recommend some alterations in the arrangement of the duties of the surgeons of the hospital, and, among other things, that they should resign at the age of sixty, with a retiring salary. Nothing could, we think, be more just or considerate than such a proposal, and it came very well from Abernethy, who had just stepped into the lucrative appointment. The proposal, however, was not acted on; and it would appear that his successors, however much they may have at the time approved of the precept, have not been in haste to follow Abernethy's example. There is little doubt that Abernethy's proposal was as just and considerate of the interests of all parties as it was in favor of those of science. We can not think that any one who considers the matter without prejudice can be of any other opinion.

The absence, however, of any law on the subject, made no difference to Abernethy; he had expressed his own intention of resigning at the age of sixty, and when that time arrived he accordingly did so. The governors, however, would not on that occasion accept his resignation, but requested him to continue. This he did for about another year, when, in 1827—having been elected in 1815—he finally resigned the hospital in the following letter, addressed to the president of the Hospital.

"St. Bartholomew's Hospital, July 24, 1827.

"Finding myself incompetent to discharge the duties of surgeon to your hospital in a satisfactory manner, and having led my junior to believe that I should resign my office at a certain period of my life, I hereby tender my resignation accordingly. At the same time, I beg leave to assure the Governors of my gratitude for their appointment to the offices which I have held under them, and for the good opinion and confidence which they have manifested toward me. I annex a draft for £100 for the use of the hospital.

"I am, dear Sir, your obedient servant,

"JOHN ABERNETHY.

"To Rowland Stephenson, Esq."

At the next meeting of the "Court" of Governors, it was proposed by Dr. Latham, and seconded by Mr. Wells, and unanimously resolved,

"That this Court accept with great regret the resignation of Mr. Abernethy as one of its Surgeons, an office which he has discharged with consummate ability for forty years; and the Court offers him their best,

their most unanimous, and warmest thanks for his very long and important services.

"July 25, 1827."

There is something significant in this vote of thanks, merging his long period of assistant surgeon in the general expression of his services as surgeon. It is very suggestive of the influence which had been felt from the presence of his master mind, although so long in a position which necessarily restricted its useful energies in regard to hospital matters. We have little doubt that, had Abernethy become surgeon to the hospital at a time of life when his physical energies were unimpaired, he would have suggested many improvements on the system; but with little real power in that quarter, and with men who were opposed to him, he was just the last man in the world to commence a crusade against the opinions of those with whom he was associated. The moment he became surgeon, we see him endeavoring to remove an evil from which he had greatly suffered, and which is obviously a most undesirable state of things, viz., that men should so often arrive at a post in which their active energies are most required at a time of life when those energies have been perhaps necessarily addressed to other objects, weary with hope deferred, or already on the wane.

He was also very averse to so spacious a portion of the hospital being devoted to the festive meetings of the Governors; and on showing it, would sometimes go so far as to say, "Ay, this is what I call the useless portion of the hospital." He continued to lecture another year, when he resigned the lectures, and in 1829 his appointments at the College of Surgeons also.

In May, 1829, he wrote to Mr. Belfour, the Secretary of the College of Surgeons (whose politeness and attention in facilitating our inquiries at the College we are happy thus publicly to acknowledge) as follows:

"My dear Sir,—Early in April the thermometer was above 70°, and I had so violent a relapse of rheumatism, that I have not been able (nor am I now able) to leave this place since that time. Apologize to the President, therefore, for my non-attendance on Monday. *Entre nous*, as I think I shall not be able to perform the duties of those situations which I now hold at the College, I think of resigning them; yet I will not decide till I have talked with Clift* upon that subject, and have heard your opinion upon it. If he could come down this or the following Saturday, I should be glad to see him.

"I remain, my dear Sir, yours very sincerely,

"John Abernethy.

"Enfield, May 21.

"To Edmund Belfour, Esq."

He accordingly, in July of 1829, resigned his seat at the Court of Examiners, when the following Memorial was sent him by the Court of Examiners.

At the College, at the Court holden on Friday, the 17th of July, 1829.

Present: Mr. Thomas, President; Mr. Headington, Mr. Keate, Vice-Presidents; Sir William Blizard, Mr. Lynn, Sir A. Cooper, Bart., Sir A. Carlisle, Mr. Vincent, and Mr. Guthrie.

Resolved, that the following memorial be entered in the minutes of this Court:

* Our excellent Conservator at that time, of whom we have already spoken, and a great favorite of Abernethy's.

"Conscious of having been enlightened by the scientific labors of Mr. Abernethy; convinced that teachers of anatomy, physiology, and of surgery (and consequently their pupils) have derived most important information from these sources of knowledge; and impressed that the healing art has been eminently advanced by the writings of that excellent individual, the members of the Court of Examiners lament the tendered resignation of an associate so endowed, and whose conduct in the Court has always been so exemplary.

"Resolved also, that a copy of the foregoing memorial be delivered by the Secretary to Mr. Abernethy."

He had by this time become a great sufferer—walked very lame; and this difficulty, interfering more than ever with his exercise, no doubt tended to make matters worse. He consulted nobody, I believe, but his old friend Dr. Roberts, of St. Bartholomew's. He was induced to go for some time into the country; and on his return, hearing that he was again in Bedford Row, and not having seen him for some time, I called on him one morning about eleven o'clock.

I knew that he had been very ill, but I was not in the least prepared to see him so altered. When I was shown into his room, I was so struck with his appearance that it was with difficulty I concealed the emotion it occasioned; but I felt happy in observing that I had succeeded.

He appeared all at once, as it were, to have become a very old man; he was much thinner; his features appeared shrunk. He had always before worn a good deal of powder; but his hair, which used to hang

rather thickly over his ears, was now thin, and, as it appeared to me, silvered by age and suffering.

There was the same expressive eye which I had so often seen lit up by mirth or humor, or animated by some more impassioned feeling, looking as penetrating and intellectual as ever, but with a calmness and languor which seemed to tell of continued suffering, and which I had never seen before. He was sitting at a table on a sort of stool, as it appeared to me, and had been seeing patients, and there were still several waiting to see him. On asking him how he was, the tone of his reply was very striking.

It was, indeed, the same voice which I had so often listened to with pleasure, but the tone was exceedingly changed. It was the subdued character which is expressive of recent suffering, and sounded to me most mournfully. "Ay," said he, "this is very kind of you —very kind indeed!" and he somewhat distressed me by repeating this several times, so that I hardly knew what to reply. He said he was better, and that he could now walk pretty fairly again, "as," said he, "you shall see."

He accordingly slowly dismounted from his seat, and with the aid of two sticks began to walk, but it was a melancholy sight to me. I had never seen him nearly so lame before.

I asked him what he was going to do; he said that he was going to Enfield on the morrow, and that he did not think he should return. I suggested that he might possibly try a drier air with more advantage; that I feared Enfield might be a little low and damp, and not, possibly, the best place for him. "Well," he said, "any thing is better than this." I very shortly

after took my leave, not sorry to be again alone, for I felt considerably depressed by the unexpected impressions I had received from this interview. It was too plain that his powers were rapidly waning. He went to Enfield on the following day (a Wednesday, I think), and never returned again to practice. He lingered about another year, during which time I once went to see him, when I found him something better. He was able to see his friends occasionally, and at times seemed to rally. In the spring, however, of 1831, he gradually got weaker, and died on the 20th of April in that year.

He perfectly retained his consciousness to the last, and, as I understood, died as tranquilly as possible. There was nobody in the room with him at the moment but his servant, to whom he said, "Is there any body in the room?" His servant replied, "No, Sir." Abernethy then laid his head back, and in a few seconds expired. His body was not examined; but from the history and symptoms of his case, there could be little doubt that there would have been found organic changes in which the valvular structures of the heart had more or less participated.

He was buried in the parish church of Enfield. The funeral was a private one; and there is a plain tablet on the wall over his grave, with the following inscription:

H. S. E.

JOHANNES ABERNETHY, R. S. S.
REGII CHIRURGORUM COLLEGII QUONDAM PRÆSES
QUI INGENIO, PROBITATE, BENIGNITATE,
EXIMIE PRÆDITUS
ARTEM MEDICINÆ PER ANNOS PLURIMOS
SUMMA CUM DILIGENTIA, SOLERTIA, FELICITATE
COLUIT, EXERCUIT, DOCUIT, AUXIT

ET SCRIPTIS HOC MARMORE PERENNIORIBUS
POSTERITATI TRADIDIT
MORBO DEMUM GRAVISSIMO CONFECTUS
CUJUS ANGORES HAUD ALITER DOMANDOS
PRO ET CONSTANTI ANIMO SUBEGIT.
CONJUGII LIBERIS, AMICIS, DISCIPULIS,
HUMANO GENERI, CUI TANTOPERE SUCCURRERAT
FLEBILIS
APRILIS DIE 20, A.D. 1831. ÆTATIS SUÆ 67.
PLACIDE IN CHRISTO OBDORMIVIT.

CHAPTER XXXIII.

"Est enim animus cælestis et quasi demersus interram locum divinæ naturæ æternitatique contrarium."—CICERO.

It has been stated by an acute observer that it was impossible for any man to be with Abernethy, even for a short time, without feeling that he was in communion with no common mind; and it was just, I think, the first effect he produced. In person he was of middle stature, and well proportioned for strength and activity. He had a most interesting countenance: it combined the character of a philosopher and a philanthropist, lighted up by cheerfulness and humor. It was not that his features were particularly well formed or handsome, though he had not a bad one in the whole countenance; but the harmony of composition (if we may be allowed the expression) was so perfect.

A sufficiently high and ample forehead towered over two of the most observant and expressive eyes I almost ever saw. People differ about color; they appeared to me always of a grayish-blue, and were characterized as the rule by a mirthful yet piercing expression, from

which an overlaying of benevolence was seldom wanting; yet, as we have before observed, they would sometimes lance forth gleams of humor, anger, or pathos, as the case might be, which were such as the term dramatic can alone convey.

There was another expression of his eye which was very characteristic: it was when his benevolence was excited without the means of gratifying it, as would sometimes happen in the case of hospital patients, for whom he wanted good air, and things which their position did not allow them to procure. He would in this case step a pace or two from the bed, throw his head a little aside, and, talking to the dresser, exhibit an expression of deep feeling, which was extremely peculiar; it was a mixture of suffering, of impatience, and sympathy; but the force the scene drew from the dramatic character of his expressive countenance is entirely lost in the mere relation. Then, if he gave utterance to a few words, they were always extremely touching and expressive. On an occasion, for example, like the following, these characters were combined. A woman came into the hospital to have an operation performed, and Abernethy, as was his invariable custom, took some time to get her health into a more favorable condition. Having so far succeeded, the day was at hand when the operation was to be performed, when the dresser informed him that she was about to quit the hospital.

"Why, my good woman," said Abernethy, "what a fool you must be to come here to have an operation performed; and now, just as you are in a fit state for it, to go out again." Somebody here whispered to him that her father was dying in the country. With

a burst of indignation, his eyes flashing fire, he turned to the dresser and said, "You fool, why did you not tell me this before?" Then, after a moment or two looking at the patient, he went from the foot up to the side of the bed, and said, in the kindest tone possible, "Yes, my good woman, you shall go out immediately; you may come back again when you please, and I will take all the care I can of you."

Now there was nothing in all this, perhaps, but his manner gave it immense force; and I remember one of the old pupils saying to me, "How kind he was to that woman; upon my soul, I could hardly help crying."

Abernethy exemplified a very rare and powerful combination of intellectual qualities. He had a perception of the facts of a subject at once rapid, penetrating, and comprehensive, and a power of that kind of analysis which immediately elicits their more important relations to the immediate objects of the investigation, a power, of course, of the utmost value in a practical profession.

This faculty was never more marvelously displayed than sometimes in doubtful or difficult cases, and this had been always a striking excellence in him, even when a young man. I recollect hearing my father say, that to see Abernethy to advantage, you must observe him when roused by some difficulty, and in a case where other men were at fault or puzzled. It was just so; his penetrating mind seemed to remove to either side at once what was foreign or doubtful, and go straight to the point with which alone he had to grapple. Allied to this, if not part of it, was that suggestive power which he possessed in so remarkable a

degree, and which, by a kind of intuition, seemed to single out those pertinent relations and inquiries which the judgment is to examine, and reject or approve, as the case may be—a faculty absolutely necessary to success in endeavors at extending the boundaries of a science. He was thus sometimes enabled, as we have seen, to convert facts to the highest purposes, in aid of practical improvement, which, with an ordinary observer, would have passed unnoticed.

These qualities, combined with a memory, as we have seen, peculiarly ready, capacious, and retentive, placed his means at once at hand for practical application. Then, while his quick perception of relation always supplied him with abundant analogies, his imaginative faculty enabled him to illustrate, enforce, and adorn them with such a multitude and variety of illustration as seemed well-nigh inexhaustible.

Of his humor we have already spoken; but the same properties which served him so well in more important matters were really, as it appears to us, the foundation of much of that humor by which his conversation was characterized—we mean his quick perception of relation, and his marvelously retentive memory. Many of the things that he said "told," not because they were original so much as that they were ready at hand; not because they were intrinsically good as so apposite in application; and, lastly, because they were further assisted by his inimitable manner. Nevertheless, sometimes his quick perception would be characterized by a corresponding felicity of expression. Those who remember the magnificent voice, and peculiar chaste style of Bartleman, the celebrated singer, who was an intimate friend of Abernethy's, will appreciate the just-

ness of the expression applied to him when he said, "Bartleman is an orator in music."

There is no doubt that he had the talent of conveying by his manner, and apparently without the smallest effort, that which in the drama is scarcely known but as the result of constant and careful study. It was a manner which no analysis of his character can convey, of which none of his own compositions even give an adequate idea. The finest colors are often the most fugitive. This is just the case with that heightened expression which we term dramatic. Who can convey in mere words the thrilling effect that an earnest, heart-felt expression of a single phrase has sometimes conveyed. But, brilliant as these endowments were, they were graced by moral qualities of the first order.

Quick as he was to see every thing, he was necessarily rapid in his perception of character, and would sometimes, at a glance, hit on the leading influence of this always difficult assemblage of phenomena with the same rapidity that marked his dealings with facts which were the more immediate objects of his professional inquiries. But, though quick in his perception of character, and therefore rapidly detective of faults, his views were always tempered by generosity and good sense. Indignant at injustice and oppression, and intolerant only of baseness or cruelty, he was kind and charitable in his construction of more common or excusable failings.

He loved man as his brother, and with enlarged ideas of the duties of benevolence, never dispensed it as a gift which it was creditable to bestow, so much as an obligation which it would have been immoral to

have omitted. It was not that he did any thing which the world calls noble or great in giving sums of money to this or that person. There were, indeed, plenty of instances of that sort of generosity and benevolence, which would creep out in spite of him, from those whom he had benefited; and no man knew how to do it better. A gentleman, for example, came up from the country to the school, and went to Bedford Row to enter the lectures. Abernethy asked him a few questions about his intentions and his prospects, and found that his proceedings would be a little doubtful, as they were contingent on the receipt of some funds which were uncertain. Abernethy gave him a perpetual ticket to all his own lectures; "and what made so much impression on me," said the gentleman, "was that, instead of paying me less attention, in asking me to his house, than the other pupils, if there was any difference, he paid me rather more." We have seen this gentleman within a few days, and we are happy to say he has had a happy and prosperous career.

The benevolence, however, to which we allude, was not merely giving or remitting money; that, indeed, would be a marvelously overcoming of the world with many people, but not with Abernethy; his benevolence was no fitful suggestion of impulse, but a steadily flowing principle of action, which was never obtrusive, but was always ready when required. It has been said a good man's life is a constant prayer. It may be asserted that a good surgeon's life should be a gentle stream of benevolent sympathies, supporting and advancing the conscientious administrations of the duties of his profession. That this really intrinsic part of his character should have been occasionally overlaid by

unkindness of manner is, indeed, much to be regretted, and, we believe, was subsequently deplored by no one more sincerely than himself, and those who most loved and respected him. The faults of those to whom we are indifferent are taken as matter of course, but the errors of those who are the objects of our respect and affection are peculiarly distressing. We feel them almost as a personal wrong; and in a character like Abernethy, where every spot on so fair a surface became luminously evident, such faults gave one a feeling of mortification which was at once humiliating and oppressive. While, therefore, we are the last to conceal his faults, we can not but think he was, after all, himself the greatest sufferer; we have no doubt they originated at least in good motives, and have been charged, after all, perhaps, with much good.

Unfortunately, we have at all times had too many Gnathos in our profession—too much of the

> "Quidquid dicunt laudo, id rursum si negant laudo id quoque,
> Negat quis? nego ait? aio."

These assenting flatteries are the bane of an honest man, and under the name of tact, and the influence of an uncompromising ambition to get on, merge the highest duties into a desire to please, and, adopting the creed of Gnatho, appropriately arrive at the same climax as their conclusions.

> "Postremo imperavi egomet mihi omnia assentari."

Now Abernethy knew this well, and detested it with a repulsion deep and sincere. He had no knowledge of Gnathonics. He felt that he was called on to practice a profession, whose legitimate object was alone achieved when it ministered to real suffering, and that mere assentation to please patients was a prostitution

of the highest qualities of mind to the lowest purposes. If one may so say, he felt like a painter who has a feeling for the highest department of his art, and who could see nothing in an assenting Gnathonicism but an immoral daub.

Neither was this without some use to others; for though he looked, as the public may be assured many others do, on a "parcel of people who came to him with nothing the matter," yet even in his roughness he was discriminate, and sometimes accomplished more good than the most successful assentator by all his lubricity. One day, for example, a lady took her daughter, evidently most tightly laced, a practice which we believe mothers now are aware is mischievous, but scarcely to the extent known to medical men. She complained of Abernethy's rudeness to her, as well she might; still he gave her, in a few words, a useful lesson. "Why, Madam," said he, "do you know there are upward of thirty yards of bowels squeezed underneath that girdle of your daughter's? Go home and cut it; let Nature have fair play, and you will have no need of my advice."

But if we must acknowledge and regret, as we do, his occasional rudeness of manner, let us also give him the credit of overcoming these besetting impulses. In all Hospitals, of course, there are occasional vexations, but who ever saw Abernethy really unkind to a hospital patient? Now we can not affirm any thing beyond our own experience. We had, as dresser, for a considerable period the care of many of his patients, and we continued frequently to observe his practice from the commencement of our pupilage, which was about a year or a little more after his appointment as sur-

geon until the close of his hospital labors. We speak subject to correction, therefore, but we can not charge our memory with a single instance of unkindness to a hospital patient, while we are deeply impressed by the constant prevalence of a generally kind and unaffected sympathy with them.

The quickness with which he observed any imperfection in the execution of his directions was, on the contrary, the source of many a "rowing," as we apprehend some of his dressers well enough remember, while he seldom took a dresser without making more than usual inquiries as to his competency. In private practice, also, any case that really required skill and discrimination was pretty sure to meet with the attention that it deserved. This was noticed in the remarks made on the character of Abernethy at the time of his death by the Duke of Sussex, at the Royal Society, of which the following is a report, copied from the books of the Society:

ANNIVERSARY MEETING OF THE ROYAL SOCIETY, NOVEMBER 30, 1831.

PRESIDENT—THE DUKE OF SUSSEX.

His Royal Highness observed that "Mr. Abernethy was one of those pupils of John Hunter who appears the most completely to have caught the bold and philosophical spirit of his great master. He was the author of various works and memoirs upon physiological and anatomical or surgical subjects, including papers which have appeared in our Transactions. Few persons have contributed more abundantly to the establishment of the true principles of surgical and medical science in those cases which require that minute criticism of the symptoms of disease, upon the proper

knowledge and study of which the perfection of medical art must mainly depend.

"As a lecturer he was not less distinguished than as an author; and he appears to have attained the art of fixing strongly the attention of his hearers, not less by the just authority of his opinions, than by his ready command of apt and forcible illustrations. He enjoyed, during many years of his life, more than an ordinary share of public favor in the practice of his profession, and though not a little remarkable for the eccentricities of his manner, and an affected roughness in his intercourse with his ordinary patients, he was generally kind and courteous in those cases which required the full exercise of his skill and knowledge, and also liberal in the extreme when the infliction of poverty was superadded to those of disease."

The high character of his benevolence was shown also in the ready forgiveness of injuries, and he was as grateful as he was forgiving. How constant his attachment to his early friend and teacher, Sir William Blizard! There is something very characteristic of this when in the decline of life he writes "Yours unremittingly" to one whose unusually lengthened years had enabled him to witness Abernethy's entry into life, and at the conclusion of the labors of his distinguished pupil, to join with a public body in expressing the high sense entertained of the obligations which he had conferred on science and on mankind. Few men could have been placed in positions more trying than that in which he found himself in his controversy with Mr. Lawrence. When, however, the time arrived at which, in the ordinary course, that gentleman would have been elected into the Council of the College, there

was a very strong feeling on the part of some of the members against his election. Abernethy proposed him himself, and it was by his casting vote that the election terminated in that gentleman's favor.

A member of the Council having expressed his surprise that Mr. Abernethy should propose a gentleman with whom he had had so unpleasant a difference, "What has that to do with it?" rejoined Abernethy. Some friends of Mr. Lawrence wished to pay that gentleman the compliment of having his portrait drawn, and a subscription was to be entered into for that purpose. It was suggested that it would be very desirable to get Mr. Abernethy to allow his name to be in the list; and our friend Mr. Kingdon,* with the best intentions, no doubt, ventured to ask Mr. Abernethy to put his name at *the head* of the list. But there was nothing of Quixotism in Abernethy. He would have been very glad to do a kind thing to any body, and any obstacle affecting him personally was much more likely to be an argument in favor than otherwise. He liked justice for its own sake, but he was circumspect as well as penetrative. At first he seemed inclined to do it, but he asked a day to consider of it, and then wrote the following letter, into a more particular examination of which we need not enter:

"1828–9.

"My dear Sir,—'*Fiat Justitia*' is, as I flatter myself, the rule of my conduct. At all times have I expressed my approbation and respect for William Lawrence on account of his professional learning, and of

* An old and respected pupil of Abernethy's, whose merits as an excellent man and kind-heated professional brother we are happy thus publicly to acknowledge.

his ability as a writer and public speaker. But if I do what you would have me, I shall do much more, and be made to appear as a leader in a scheme, the object of which is indefinite; so that persons will be at liberty to put what construction they please upon my conduct. Being desirous of doing what you wish, I have been for some time in a state of perplexity and hesitation.

"At length I have resolved, that since I can not determine what ought to be done, to follow a useful rule of professional conduct, and to do nothing. Vexed to refuse you any thing, I hope that you will still believe me, my dear Sir, your obliged and very sincere friend,

"JOHN ABERNETHY."

As a companion, Abernethy was most agreeable and social, in the true sense of the word; that is, not gregarious. Naturally shy, numbers neither suited his taste nor his ideas; but the society of his family, or a few social friends with whom he could feel unreserved, was his greatest pleasure.

On such occasions, when in health, he would be the life and joy of his circle. There never was, perhaps, any one more ministered to by an enduring affection while living, nor in regard to whose memory the regrets of affection had been more combined with the hallowing influences of respect and veneration. At home, he would sometimes be as hilarious as a boy; at other times he would lie down on the rug after dinner, and either chat or sleep away the short time that his avocations allowed him to give to that indulgence. Occasionally he would go to the theatre, which he sometimes enjoyed very much; like his brother, he was a

great lover of our immortal Shakspeare, and scarcely less familiar with most of the wonderful creations of his mighty genius.

When we contemplate Abernethy in a single phase only of his character, we see a "fidgety" physical organization, influencing an irritability of character of which it was too much a supporter if it were not the original cause; but the moment we penetrate this thin and only occasional covering, we meet with nothing but rare and splendid endowments; and as we proceed in our examination, we are at a loss which most to admire, the brilliant qualities of his intellect, or the moral excellences of his heart.

But in estimating the one or the other, we must view them in relation to the other feelings with which they were accompanied, as impeding or assisting their development and application, or otherwise we shall hardly estimate in its due force the powers of that volition over which the moral sense so constantly presided.

Abernethy had considerable love of approbation—a quality which, in its application to the Divine Being, all others may be said to terminate; but it is a quality which, in its too common application, is apt to dilute the character, and bring down the mind from the contemplation of more elevated motives to the level of those more suited to more immediate fruition afforded by worldly conventionalisms. To one shy even to timidity, and whose organization fitted him rather for the rapid movements of a penetrative and impulsive perceptivity than the more dogged perseverance of sustained labor, love of approbation, even in the ordinary application of it, might have been a useful stimulus

in maintaining exertion, and we believe it was. Yet, though he avowed it as a dominant principle in our nature, as the great "incentive" to human action, he never sought it but by legitimate channels; nor, potential as its influences might have been, when sharpened by shyness and timidity, did he hesitate one moment to throw them all aside whenever the interests of truth or justice rendered it necessary.

When Mr. Hunter's views were little noticed, less understood, and apparently in danger of being forgotten; when the more speculative of his views were not even known as his by any *published* documents; when, therefore, in addition to other objections, he was, as we have seen, subjected to the imputation of advocating opinions as Hunter's of which there were no other proofs than the precarious testimony of contemporaries, he stood boldly forward as the fearless, earnest, and eloquent advocate of John Hunter. In this cause he overcame his natural dislike to contest and publicity, and encountered just that individualizing opposition which is most trying to a sensitive organization, exemplifying a rare tribute of truth and justice paid by genius to the claims of a departed brother. At the same time, the power he displayed of moulding views, scarcely even acknowledged, into the elementary beginnings of little less than a new science, strikingly testifies the superiority of his intellectual power.

While, however, he advocated John Hunter's views, and, with a creative spirit, made them the basis of additional structures which were emphatically his own, we find him modestly reverting again and again to John Hunter, as if afraid of not awarding him his just [illegible]d forever linking both the early bud afforded by

Hunter's inquiries, and the opening blossom afforded by his own, with the imperishable efforts of his distinguished master, exemplifying the modesty of genius, and how superior it is, when guided by virtue, to any but the most exalted motives.

Another example of his independence of mind, and of his conquest over difficulty when the interests of truth appeared to him to render it necessary, was the manner in which, in defiance of ridicule and all sorts of opposition, he advocated his own views—with ultimate success, it is true, but obtained only through a variety of difficulties, greatly exacerbated by his naturally shy, if not timid organization. Still, amid all his brilliant endowments, we feel ourselves fondly reverting to the more peaceful and unobtrusive efforts with which he daily inculcated the conscientious study of an important profession.

That he had faults is of course true, but they were not the faults of the spirit so much as of the clay-bound tenement in which it resided—not so much those of the individual man as those necessarily allied to humanity. The powerful influences of education had not been very happily applied in Abernethy; its legitimate office is no doubt to educe the good, and suppress the evolution of bad qualities. In Abernethy, we can hardly help thinking that his education was more calculated to do just the contrary. "To level a boy with the earth" because he ventured on "a crib" to the Greek Testament, is, to say the least of it, very questionable discipline for a shy and irritable organization. To restore to its original form the tree which has been bent as a sapling, is always difficult or impossible.

But in virtue of those beneficent laws which "shel-

ter the shorn lamb," Abernethy was allowed ultimately, in spite rather than in consequence of his education, to develop one of the most benevolent of dispositions. To this was joined a powerful conscientiousness, which pervaded every thing he did, and which could hardly be supported but by sentiments of religious responsibility; and we believe that his mind was deeply imbued with the precepts of a vital Christianity, that took the most practical view of his duty to God and to his neighbor; and in the very imperfect sense in which human nature has ever attained to the full obedience of either, he regarded a humble and practical observance of the one as the best human exposition of the other. His favorite apophthegm on all serious occasions, and especially in those parts of his profession where its guidance was most required, was the divine precept of doing to others as we would wish done to ourselves. His ancestors had been eminent divines, and one of them a distinguished writer, and had attached themselves to what I believe is understood by the term "High Order of Unitarians;" but I have no reason to believe that Abernethy differed from those tenets which are held by the Church of England.

In concluding this very imperfect sketch of a very difficult character, we have merely endeavored to give our own impressions. We can not help thinking that Abernethy has left a space which has not as yet been filled; it would be presumptuous to say that it will long continue so. In his life he has left us an excellent example to follow, nor has it been less useful in teaching us that which we should avoid.

He is among us, as he taught us how to exercise

some important duty, he would occasionally, by way of exception, endeavor to impress matters of detail, by showing first how they should not be done. His life instructs us after the same manner. In all serious matters we may generally take him as a guide; in occasional habits, we may most safely recollect that faults are no less faults—as Mirabeau said of Frederick—because they have the "shadow" of a great name; and we believe that, were it possible, no good man would desire to leave a better expiation of any weakness than that it should deter others from a similar error. This is the view we would wish our young friends to take of the matter. We can not all reach the genius of Abernethy, but we may be animated by the same spirit.

If great men are endowed with powers given only to the few, their success generally turns on the steady observance of the more homely qualities which are the common property of the many—caution, circumspection, industry, and humility. Again, genius is often charged with weaknesses by which mere ordinary minds are unfettered or unembarrassed. We may emulate the justice, the independence of mind, the humanity, the generosity, the modesty, and, above all, the conscientiousness of Abernethy in all serious cases, without withholding from the more ordinary and lighter duties of our profession a due proportion of these feelings, or necessarily laying aside that forbearance and courtesy which must ever lend an additional grace to our various duties.

We may endeavor, with all our power, to avoid a disgraceful flattery and assentation without replacing them by contrasts which, though not equally mischievous, we may be assured are equally unnecessary, while

we may, in our various stations, emulate his kindness, his constancy as a husband, father, and friend, and yet not refuse a becoming share of such endearing qualities to others, from any fear that we may be subject to misconstruction.

We may remember that intellect alone is dry, cold, and calculating; that feeling, unsupported or uncontrolled, is impulsive, paroxysmal, and misleading; and that the few rare moments of moral excellence which human nature achieves are when these powers combine in harmony of purpose and unity of action.

We may be assured that, however much we may admire that rapid and searching perceptivity; that sound, acute, and comprehensive judgment which Abernethy brought to bear on the study of the profession; or the honorable, independent, generous, and humane manner in which he administered its more important and serious duties, that the greatest, and, for good, the most potential influence of all, was the manner in which he employed multiplied and varied excellences as a teacher in infusing a truly conscientious spirit into the numbers whom, as pupils, he sent forth to practice in all parts of the world. This is still an unknown amount of obligation. Those resulting from his works may be proximately calculated, and such as are necessarily omitted in a review essentially popular *may be chronicled hereafter in a more suitable manner;* but as a teacher, we can not as yet calculate the amount of our obligations to him. They are only to be estimated by reflection, and by recollecting the *moral influence of every man* who honestly practices an important profession.

Finally, whether we think of the interests of the public, the profession, or those of each as affecting each

other, or of both as affecting the progress of society, we shall, I think, be disposed to agree with one of our most distinguished modern writers, that the "means on which the interests and prospects of society most depend are the sustained influence that invariably attends the dignity of private virtue."

INDEX.

CHAPTER I.

Retrospect, page 1.
Progress of Discovery, 1, 2.
Galileo, Bacon, Kepler, Berzelius, Davy, &c., 2, 4.
Discovery, Result of combined Effect, 4.
Of Physiological Laws, 4, 5.
Meaning of Events not seen at the Time, 5, 6.
Clear Ideas of what is deficient, 6.
First Step in enlarging a Science, 6.
False Ideas concerning Medical Science, 8, 9.
Birth of Abernethy, 9.
Its Relation to Hunter's Labors, 9.
Abernethy's Family, 10.
Goes to School, 11.

CHAPTER II.

School Life, 12.
Predictions of Character often Erroneous, 12.
Dryden, Swift, Sheridan, 12, 13.
Galileo, Newton, Wren, 13.
Individuality of Abernethy, 14.
School-fellows, 14, 15.
Their Reminiscences, 15–19.
Leaves School, 1778, and returns to London, 19, 20.

CHAPTER III.

Mistakes in Choice of Professions, 20, 21.
Of Success, Steadiness, Industry, 21.
Industry of Abernethy, 22.
His Inclination for the Bar, 22.
His Powers of Memory, 23.
Becomes a Pupil in Surgery, 24.
Apprenticed to Sir C. Blicke, 24.
Of Apprenticeship, 25, 26.
Sir Charles Blicke, 26, 27.
Abernethy's early Disposition to Scientific Inquiry, 27, 28.
Attends the Lectures of Sir William Blizard and Mr. Pott, 29.

CHAPTER IV.

Sir William Blizard, 29.
Abernethy's Views of Anatomy, 30.
Anatomy chiefly interesting as a Key to Physiology, 31.
Abernethy's grateful Recognition of early Precepts from Sir William Blizard, 31, 32.
Incentives to Study, 33.
Abernethy at the London Hospital, 33, 34.
Modes of Teaching Anatomy, 34.
Demonstrates for Sir William Blizard, 35.
Attends Mr. Pott's Lectures, 35, 36.

CHAPTER V.

A large London Hospital, 36.
Trait of Abernethy, 37.
Disease a great Leveler. 37.
Money can not buy Every Thing, 38.
Elected Assistant Surgeon, 38.
Important Epoch in his Life, 39.
His Position, 40.
Lectures in Bartholomew Close, 41.
His Education as a Lecturer, 41.
Becomes a Teacher, 42.
Care necessary in youthful Labor, 42.
His Lectures soon attractive, 43.
Importance of comparative Anatomy, 43, 44.
His Zeal and Industry, 44–46.
The celebrated Dessault, 46.
Shyness of Abernethy, 46, 47.
Increased Attractions of his Lectures, 47.
The new Theatre, 1791, 47.

CHAPTER VI.

Change, 48, 49.
Changes in our own Bodies, 49, 50.
Vegetables grown on Flannel, 51.
Leeches kept in distilled Water, 51.
Experiments on Rabbits, Chickens and Eggs, 52, 53.

Of the ultimate Particles of Matter, 53, 54.
His Reflections thereon, 54.

SECTION I.

Dissection of a Whale, 54, 55.
Absorbent Vessels in the Whale, 55, 56.
Of Glands, 57, 58.

SECTION II.

Curious Cases, 58.
Deviations from the Natural Structure, 58, 59.
Combination of Natural Laws, 60.
Their Import in Natural Theology, 60.
Dissection, how formerly supplied, 60, 61.
Curious Relations of the Heart and Liver, 61–63.
Of the Public Aversion to the Inspection of the Dead, 63, 64.

CHAPTER VII.

Armstrong the Poet, 64.
Of Pain, 65.
Of painless Diseases, 65, 66
Of an insidious Malady, 66.
Abernethy's Essay on Lumbar Disease, 67.
Principles of his Plan, 67.
Abernethy's Plan misunderstood, 68, 69.
Misinterpreted by Sir A. Cooper, 69.
Real Objects of the Plan, 70.
Suggested by an Accident, 71.

CHAPTER VIII.

His Essay on the Skin and Lungs, 71.
Advance of Chemistry, 72–74.
Caution in chemical Reasoning, 74.
Respiration—what? 74, 75.
Object of his Inquiry, 75.
Function of the Lungs, 76.
Of the Lungs and Skin, 77.
Of the covering of Animals, 77.
Of the color of Animals, 78.
Clothing of Birds, 78, 79.
Variety of their Color, 79.
Of Respiration by the Skin, 80.
Sanctorius, Cruikshank, Edwards, 80, 81.
Experiments, 81.
His Experiments in Quicksilver, 82, 83.
Experiments in Water, 83.
Questionable Views of Carbonic Acid, 83.
Carbonic Acid, how formed, 84, 85.
Experiments in Carbonic Acid, 86.
Absorption by the Skin, 86.
Experiments on his own Lungs, 86, 87.
Immense Surface of the Skin, 87, 88.
Relation of Skin and Lungs, 88, 89.
Relation of Lungs and other Organs, 89.
Connection of Lungs with Organs, 90.
His Remarks on Consumption, 90, 91.
On its Treatment, 91.
What Kind of Investigation required, 92.
The present State of Medicine, 92.

CHAPTER IX.

His Remarks on Tic Douloureux, 92.
Sufferings of Tic Douloureux, 93.
Division of Nerve Case, 94, 95.
Of the Nervous System, 95.

SECTION.

Bleeding, 97.
Its Frequency, 98.
Comparative Infrequency, 99.
Occasional Accidents, 99.
His Cautions important, 100.
His rising Reputation, 101.
His Reputation at the Hospital, 101.
Third Part of "Physiological Essays," 102.

CHAPTER X.

His clear Penetration, 102.
Pierre Joseph Dessault, 103, 104.
Dessault and Abernethy, 105.
Their Solution of a Difficulty, 105, 106.
Abernethy's improved Practice in Injuries of the Head, 106–108.
General Excellence of this Paper, 109, 110.
Importance of Recording Facts, 110.

CHAPTER XI.

Experiments on Irritability, 110, 111.
Of Galvanism, 111, 112.
Object of Abernethy's Experiments, 112.
Observations on Frogs, 113, 114.
Of the Respiration of Fish, &c., 115
Experiment on the Blood, 115, 116.
On the Temperature of Animals, 116

CHAPTER XII.

A few Remarks on Experiments on Living Animals, 117.
Claims of Physiology, 117, 118.
Experiments on Animals questioned 119.
Those of Orfila inconclusive, 119, 120
Orfila—Charles Bell, 120.

Physiology a Science of Observation, 121.
Abernethy's Disapproval of Experiments on Living Animals, 122, 123.
Absence of Cruelty necessary, that the Reasoning may be clear, 123, 124.
Coincidence of Moral and Scientific Objects, 124.

CHAPTER XIII.

His Remarks on Tumors, 125.
The Object of his Arrangement, 126.
Simplicity of his Plan, 126, 127.
Importance of Names, 127.
His Arrangement, 127, 128.
Hasty Removal of Tumors, 128, 129.
Defects of Plan, 129, 130.
Popular Illustration, 130, 131.
Of Analogies in Vegetables, 131, 132.
Great Importance of the Subject, 132.
His Success, 133.

SECTION.

Occasional curious Results of Wounds of the Lungs, 134.
His Remarks on Nævi, 135, 136.
Avoidance of unnecessary Excision, 136.
Value of his "Surgical Cases," 136.
Hunter's celebrated Improvement, 137.
Abernethy's early Extension of it, 138.
Of minute Holes in the Heart, 138, 139.
Moves to Bedford Row, 139.

CHAPTER XIV.

Abernethy's Marriage, 140.
Of Apophthegms, 141.
Table-Turning, 141, 142.
How Eccentric, 142.
Common Sense, 143.
His Difficulty, 143, 144.
Writes a Note, 144.
Married at Edmonton, 144.
Lectures on the same Day, 145, 146.

CHAPTER XV.

Of his Work called "My Book," 147.
Expansion of his Views, 147, 148.
Slow Progress, 148.
Imperfect Study of his Views, 149.
Importance of Simple Facts, 149.
Misconstruction of his Views, 150.
Mr. Hunter, 151.
Popular Illustration, 152.
Facts observed by Mr. Hunter, 152, 153.
Remarks on his Audience, 153.
Impressions on Abernethy, 153, 154.
On a great Evil, 155.
Consequences of it, 155.
Evils of imperfect Induction, 155, 156.
Important Inferences, 156.
Importance of Names, 157.
Evils of partial Investigation, 158.
Illustrations of his Views, 159.
Clearness and Precision of his Remarks, 160, 161.
Misconception of his Views, 161.
Whence they originated, 162.
Popular Illustrations, 163, 164.
Simple Nature of Odors, 165.
Vigilance of the Stomach, 165, 166.
Abernethy's Illustrations, 166, 167.
Of accurate Investigation, 167, 168
Its essential Elements, 168.

CHAPTER XVI.

"My Book" continued, 168, 169.
Conduct of the Mind in Scientific Investigation, 170.
Influence of Digestive Organs in Injuries of the Head, 171.
Influence of Digestive Organs in so-called Specific Diseases, 172, 173.
Of Specific Poisons, 173, 174.
A suggestive Case, 174, 175.
Affections of continuous Surfaces, 175.
Interesting Results, 175. 176.
Affect the Mind also, 177.
Mr. Boodle, 177, 178.
Value of Abernethy's Principles, 178.
Recapitulations, 179.
Uncertainty of Medicines, 179, 180.
Causes of Failure explained, 180.
Causes of Failure examined, 180, 181.
Explanation of Phenomena, 181, 182.
How Nature deals with injurious Influences, 182–184.
General Consequences, 184, 185.
Of secondarily-affected Organs, 185, 186.
Importance of Primary Organs, 186, 187.
And of Discrimination, 187.
What Caution necessary, 187, 188.
Author's Obligations to Abernethy, 188, 189.
Impressions produced by "My Book," 189, 190.
Slow Diffusion of his Principles, 190, 191.
Reminiscences of Old Pupils, 191.
His increasing Practice, 191, 192.
Importance of Patients understanding those consulted, 192, 193.

Sir James Earle, 193, 194.
Anecdote, 194.

CHAPTER XVII.

Retrospect, 195.
Varied Currents of human Affairs, 196, 197.
Smooth Water, 197.
High estimate of Abernethy, 197, 198.
Scientific Character of his School, 198.
Attended by Pupils of other Schools, 198.
Plate presented by Pupils, 199.
Pupils subscribe for a Portrait, 200.
Mr. Stanley's Demonstration, 201.
Painful Impressions in Prospect, 202.
Trials, 202, 203.

CHAPTER XVIII.

Lincoln's Inn Fields, 203, 204.
College of Surgeons, 204, 205.
Hunterian Museum, 205, 206.
Mr. Clift, 206, 207.
Selection of Lecturers, 207, 208.
Abernethy appointed in 1814, 208.
Use of Hypothesis in expressing our Ideas, 208–210.
Abernethy's correct Interpretation of Hunter, 210.
Abernethy's additional Illustrations, 211.
Illustrations not Opinions, 212.
Unexpected Consequences, 212, 213.

CHAPTER XIX.

Comparison made by Lord Bacon, 213.
Of Fearlessness and Humility, 213, 214.
Of the Effects of Controversy, 214.
Bacon—Pope—Addison, 215.
Abernethy—Lawrence, 215.
Mr. Lawrence's Exordium, 216, 217.
Its comprehensive Fidelity, 217.
Mr. Lawrence's first Lecture, 217, 218.
Mr. Abernethy in Relation to the Opinions advocated, 218, 219.
Personal Application by Lawrence of Abernethy's Observations, 220, 221.
Others engage in the Discussion, 221.

CHAPTER XX.

Review of the Controversy, 221, 222.
Difficulty of Abernethy's Position, 222.
Discussions of the Pupils, 223.
Difficulty of Abernethy's Position, 223, 224.
Of Tendency as an Argument, 224, 225.
Abernethy's Moderation, 225, 226.
Of the Poverty of Language, 226.
Of the Conduct of the College, 227.
Of imputed Skepticism, 227–229.
Alleged Neglect of the Sabbath, 229, 230.
Conduct of the College, 230.
Apathy of the College, 230, 231.
Abernethy's Moderation, 231, 232.

CHAPTER XXI.

Abernethy's Style of Lecturing, 232, 233.
Of Extracts from Lectures, 233.
Extracts from Lectures, 233–252.

CHAPTER XXII.

Abernethy as a Teacher, 253.
Communication of Ideas, 253.
Of Simplicity, 254.
Of unnecessary Technicalities, 255, 256.
Some Lectures very technical, 256.
An Example, 256, 257.
A Sentence from Abernethy, 257.
Of Tricks—Good Breeding, 257, 258.
Vulgarity, 258, 259.
Abernethy's Freedom from, 259.
Of Quantity, 259, 260.
Of metaphorical Language, 260.
Mode of impressing Facts, 260. 261.
Anecdote of Dr. T. Rees, 261.
Of his Stories, 262.
His dramatic Power, 262, 263.
Anecdote, 263, 264.
Of the Pathetic—Anecdote, 264, 265.
Tone of Voice never Declamatory, 266, 267.
Inconveniences of Declamation, 267.
Of Sympathy with the Student, 268.
Of Order—favorite Passages, 268.
His Liveliness, 269.
Importance of Liveliness, 270.
His successful Manner, 270, 271.
In referring to Adaptation, 271, 272.
Inconvenience of Marvelousness, 272.
Of the Passion or Feelings, 272, 273.
Of sensual Illustrations, 274.

CHAPTER XXIII.

Abernethy's Humor, 274, 275.
Anecdote, 275–277.
His Self-possession, 277.
Of his general Tone, 278.
Salutary Impressions, 278, 279.
Gentleness, 279, 280.
Its Importance, 280.
An important Improvement, 280, 281

General Effects of his Lectures, 281.
His negative Excellence very great, 281, 282.

CHAPTER XXIV.

Of Immoralities of Trades, &c., 282.
Of Habit and Fashion, 282, 283.
Of conventional Morality, 283.
Influence of Fashion, 284.
Honesty the best Policy, 284, 285.
Of public Credulity, 285.
Of legal Practice, 285.
Mischief of conventional Morality, 286.
Examples of, 287.
Illustrations of Conduct, 287–289.
Decision of doubtful Operation, 289.
Moral Influence of Abernethy, 289, 290.

CHAPTER XXV.

Of Consultation, 290–293.
Of Differences of Opinion, 293, 294.
Consultation, 294–297.

CHAPTER XXVI.

Abernethy in Consultation, 297–305.
Anecdote, 306, 307.
Abernethy in Consultation, 307, 308.
Modesty and Sense of Justice, 308, 309.
Abernethy's Extension of Hunter's Operation for Aneurism, 309, 310.
Abernethy in Consultation, 310–313.

CHAPTER XXVII.

Of Manner, 313–316.
Of Abernethy's Manner, 316.
His Roughness and Benevolence, 316, 317.
Anecdotes, 317–319.
His Liberality, 319, 320.
Anecdote, 320.
His Humanity, 321.
Poor Gentlemen, 321–323.
Anecdote, 323.
Of operative Dexterity, 324.
Of operating, 325, 326.
A Hoax, 326, 327.
Of Anecdotes generally, 327.
Of his Manner, 328.
Self-government, 328, 329.
Of publishing Lectures, 329, 330.
Extract from a Letter, 330, 331.

SECTION.

Appointed Surgeon to St. Bartholomew's in 1815, 331, 332.
Ageing at Fifty, 332.

CHAPTER XXVIII.

The Hospital System, 332–338.
Of Operations, 338, 339.
Of Chloroform, 339.
Operations—John Hunter, 339–341.
Hospital System resumed, 341.
Of Apprentice Qualification, 341–344.
Of accurate Records, 345.
Of Division of Labor, 345.
Hospital System a Failure, 346.

CHAPTER XXIX.

Hospital System a Failure, 347.
Abernethy and the System, 348.
Professor Owen—Cuvier, 348–352.
Hospital Altercations, 352–354.
Mr. Stanley, 354–356.
Sir Astley Cooper in Illustration of the System, 356, 357.
Unsatisfactory Results of the Hospital System, 357, 358.
Sir Charles Bell, 358.
The Hospital System, 359.

CHAPTER XXX.

Of our Obligations to Abernethy, 360, 361.
John Hunter, 361, 362.
Hunter—Abernethy, 363.
Hunter and Abernethy, 363–366.
Obligations to Abernethy, 366–375.

CHAPTER XXXI.

Of our Position and Prospects, 376.
Of Evils and their Correction, 376–378.
Signs of public Distrust, 378, 379.
Astuteness of Quackery, 379.
Impressions on the Public, 379–381.
Homeopathy—Hydropathy, 381.
Homeopathy, 381–387.
Hydropathy, 387–392.
Hopes and Predictions, 392–394.

CHAPTER XXXII.

Wear and Tear, 394.
His Country Dress, 394, 395.
House at Enfield, 395.
His irritable Heart, 395, 396.
Wounded in Dissection, 396.
Resigns his Professorship, 398.
Receives Thanks of the Council, 398.
His Reply, 398, 399.
Letter to Sir W. Blizard, 399, 400.
Suffers from Rheumatism, 400.
Of Illness in Medical Men, 401.
Walking to the Lecture, 401.
Resigns the Hospital, 403
His Resignation, 403.

Vote of Thanks, 403, 404.
Of his proposed Improvements, 404.
Letter to Mr. Belfour, 405.
Memorial addressed to him, 405, 406.
An Interview, 406–408.
His Death, 408.
Tablet to his Memory, 408, 409.

CHAPTER XXXIII.

Of his Character, 409.
Impressions of his Character, 410–417.
Remarks of the Duke of Sussex, 418.
Impressions of his Character, 418–427.

THE END.

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